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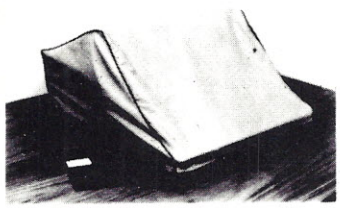

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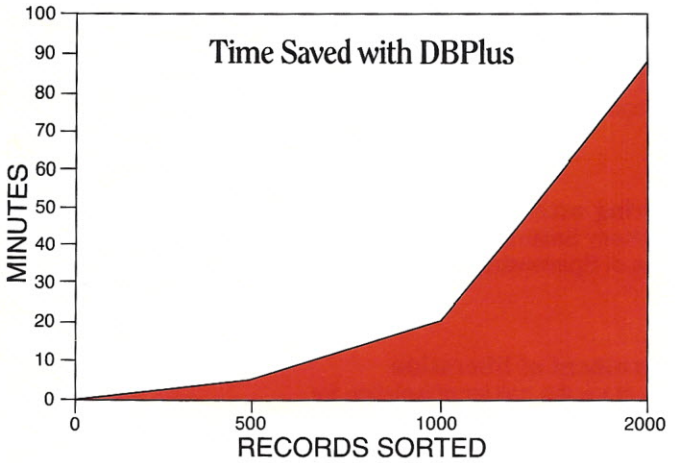

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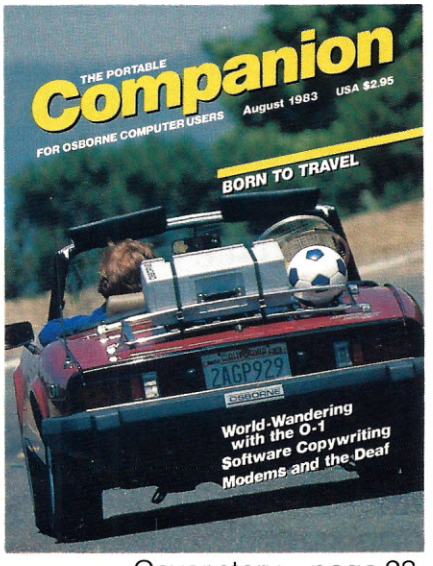

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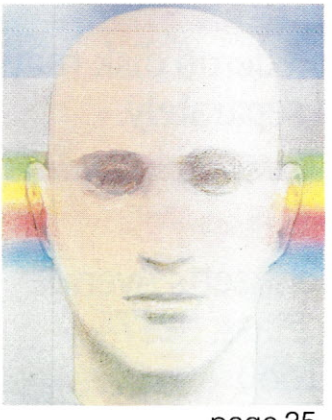

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Start-Up

Controlling software piracy

Software piracy has surfaced as one of the critical problems facing the microcomputer industry. In an effort to kick off a dialogue on this elusive problem, a panel of industry experts, including Dr. Adam Osborne, gathered at the National Computer Conference in May to take a hard look at possible solutions.

Individual panelists blamed everyone from the courts to user groups (many of whom "require new members to hand over their software for copying" prior to admittance to their clubs, according to Wayne Green of Wayne Green publications). A number of diverse solutions were offered, running the gamut from rewording end user license agreements, to passing a law that would require installation of some sort of hardware device at the manufacturing stage that would discourage piracy and protect software vendors.

"If you think you're going to solve piracy with an altruistic solution, you're dead wrong," Adam Osborne said. "The problem is that we're all thieves."

Dr. Osborne was the key proponent of a law regulating hardware manufacturers, insisting that any voluntary solution would prove fruitless. "It's just like anti-pollution regulations: if they had been voluntary, many people wouldn't have done it and the people who did do it would have been at an economic disadvantage."

One panelist offered a slide presentation of one type of hardware modification that would make it difficult, if not impossible, to copy software. Other solutions offered included offering site licensing fees to software rental libraries and school districts. By paying full price for the first package and a lower price for additional copies, it was argued that the large customer can be discouraged from wholesale copying.

One expert defined the vexing problems encountered with the legal community. Of the 450,000 attorneys in the U.S., only 700 attended a recent conference on computer law. He stressed that this lack of interest and knowledge also extends to the courts, where it's hard enough to educate a judge on what a floppy disk is let alone win a piracy case. In addition, cases of law are decided on the basis of precedent and prior related cases—few of which exist in the infant area of computer law.

A gent in the audience came up with my favorite solution. He insisted that the best approach would be to make software pricing more competitive. The argument was that by charging a lower price for the software and supplying adequate documentation, most people would choose to fork over the dollars rather than pinch off their friends. This coupled with access to upgrades (at fees that enable vendors to stay in business) could be incentive enough to curb the tendency to pirate.

It's a necessary debate and the open dialogue is critical to its eventual solution. Certainly, we as users need to consider our role in this serious industry problem. Do user groups take adequate action to stem piracy? Do we as individuals consider the long term costs when we offer a friend a free copy of a piece of software? I'd like to hear your solutions to a problem that affects all of us, both ethically and financially.

Jackie Rae
Editor

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Letters

Details, Details

"Auto Starting" by Doug Hurst (Feb/Mar 83) is good, but a few details can be added.

If the new file name exceeds four characters, the preceding number must be increased.

It is possible to combine a COM file and a user file in this call. I have changed the name of MBASIC to MB and AUTOST calls to MB ZACCT to load BASIC and run my accounting program.

It is better to avoid using more than eight characters as this requires further changes.

The SAVE 10 instruction will create AUTOST requiring 3K disk space; the program requires only SAVE 8. It can be shortened by deleting the logo to store with SAVE 4 and use 1K space. Change as follows:

11D 11 becomes C3
11E 74 becomes 2F
11F 01 unchanged

This jumps over the logo instructions.

It should be noted that versions of AUTOST are not necessarily identical. The locations of particular instructions differ slightly on some of my disks.

The multi-use disk (John Gaudio, p. 56) can also be further improved:

Key 9: SETUP⟨cr⟩⟨cr⟩MF⟨cr⟩ M^CWS⟨cr⟩
Key 8: SETUP⟨cr⟩⟨cr⟩MF⟨cr⟩ M⟨cr⟩

This switches in or out of WordStar with a single keystroke.

Jack H. Wyatt
Sacramento, CA

Ozzie Nightingale

This letter is to share with you how my Osborne served in the recent emergency in Huntington Beach with the flooding and resulting

evacuation of residents from their homes.

The police and fire departments had evacuated residents from low-lying areas to the local high school to be assisted by the Red Cross. Red Cross volunteers were hastily taking down names and addresses as people came in, and for those who went on to homes of friends or family or to those who opened their homes. This information was for the police and Red Cross in the event that some other person was trying to locate the evacuees.

Fortunately I was not affected by the flooding but went to the nearby high school to locate a distant relative. I saw the scattered name cards on the table and realized that some kind of order needed to be made. The police and fire departments needed the information organized alphabetically as quickly as possible for use at their switchboards. It was quickly evident that the Osborne could solve the problem. I picked up my Osborne from home, borrowed a small printer from a nearby computer store, and spent the rest of the evening inputting the necessary information, using dBASE II. Print-out copies went to police and fire departments, as well as to the Red Cross.

Several young Red Cross volunteers from the high school wanted to spell me off on the inputting task. Others stood by curious and fascinated at what the Osborne could do. It can be utilized so easily and promptly when any such emergency

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☐ See Review in *Microcomputing,* January 1983, page 158.

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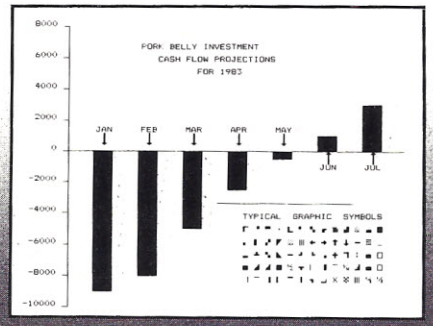

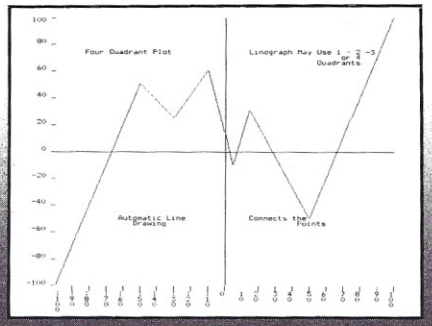

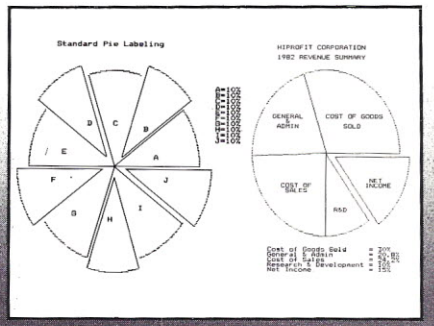

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arises. I will be more alert to be available in such emergencies.

Lucille Owens
Huntington Beach, CA

Covering contingencies

I read the article titled "The Osborne Modem" in the Dec/Jan issue with great interest. Your COMM-PAC looks like an exceptional value. However, there are two items that should have been brought up.

The per-hour cost of using The Source, and The Source's minimum monthly billing. You should also note that the subscriber must have a major credit card to be billed against. As far as I know, The Source does not bill direct. (I gave up my subscription because the rates got too high.)

A large number of Osborne users will be using their computers from motel rooms, but I didn't see any mention in the article of uses when there is no direct-dial capability. The vast majority of my calls are long-distance, on a credit card. Because of that, I need voice communication for a small portion of the card (to give the operator my card number).

I realize it would be impractical to design your equipment to cover all contingencies. It would, however, be a good idea to tell prospective buyers about any additional or hidden costs associated with subscriber services like The Source.

Dennis G. Lieburn
Racine, WI

Mr. Lieburn's direct-dial question is addressed in this issue's Wizard of Osborne column.—Editor.

Bugs and masochism

dBASE II has some bugs (er... undocumented features) that might interest some of the readers of your great magazine.

The text editor sometimes doesn't update the file being modified, even when editing is properly terminated with a ^W. Use of the text editor has also been known to modify data files that were not being edited. Unless masochism is your preference, life will be more serene if you use WordStar's non-document mode to edit and modify your non-data files.

The REPORT function will sometimes list a record, even when the .dbf file it is listing is actually empty. You should be able to circumvent this "feature" by making the report conditional; i.e., REPORT FORM FormName for # ⟨⟩ 0.

Ashton-Tate is aware of these problems and others. I am told they are in the process of preparing a new release of dBASE II that will correct these problems. No telling when the fixes will trickle down to we customers. Pardon the cynicism. I am irked that people sell programs with significant flaws, and do not warn me about those flaws, when they know they exist. Identifying these "features" has cost me a lot of time. Interpret that as money.

Walter E. Lersch
Portland, OR

Almost ducky

Thank you for the wonderful presentation of the article. However, in printing "DUCK!" in the Apr/May 83 edition of the *Companion*, the Remark statements were omitted from the listing of the program. Although this improves the speed of the program, one REM statement was important for its proper functioning.

It specifies that line 1170 has 13 spaces between the quotation marks at the end of the line. The symptom that would result if this were not correct would be that ducks shot on the right side of the screen would not disappear.

Peter H. Kelly
Alexandria, VA

PIP squeaks

Thank you for sending the copy of the *Portable Companion* reprinting the piece on PIP and WordStar I did for the local CFOG newsletter. Unfortunately, the same drastic error crept into it that crept into the reprints of a couple of other newsletters: the all-important CP/M = (equals) sign is missing from the commands, and replaced by an extra and unwanted comma. The commands should read in the first instance:

PIP B:WHOLE.DOC=B:BEGIN.DOC,B:MIDDLE.DOC,B:END.DOC⟨cr⟩

and in the second instance:

B:WHOLE.DOC=A:BEGIN.DOC,B:MIDDLE.DOC,A:END.DOC⟨cr⟩

Henry Kisor
Evanston, IL

"Wiz-kids" win

To the "Wiz-Kids" at the *Portable Companion* I say, "May your heads never run out of track!" Y'all seem to stay one step ahead of the game with your mag and I'm ecstatic due to the doubling of your issues in the coming year.

I'm a programmer by trade and I use my Osborne 1 for research, but I love to wow my friends with games and graphics. Keep 'em coming from that mag with class.

So I raise by bubbly to you folks, for now I'm in the mode to byte my boards and tickle the keys. Just praise.

L. L. Hartlep
Corpus Christi, TX

P.S.: I have had no major bug problems with the listings I've copied.

Typeset connection

Barbara Elman's article, "The Word Processing/Typeset Connection" (*The Processed Word*, Feb/Mar) was an excellent introduction to typesetting, an industry that has been changing almost as quickly as computers.

We successfully installed an Osborne/Compuwriter I interface seven months ago, and, unbeknownst to Ms. Elman, have been providing a direct-from-disk typesetting service to other Osborne users since then. WordStar is used without justification or hyphenation and "slash codes" delimit paragraphs, titles, bold face, italics and so on.

Mastercraft Typesetters
Eugene, OR

Twisted twisters

Several typesetting errors crept into my article "MBASIC Brain Twisters Solved" in the June issue. Under the sections Direct Cursor Addressing and Mysterious Linefeeds or Garbage Characters the function DEF FNC$(X,Y) should

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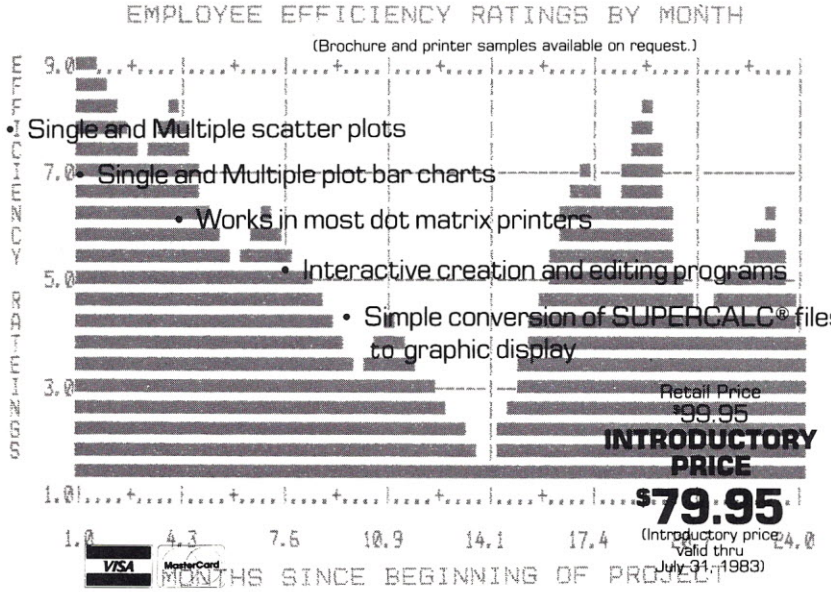

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be written DEF FNC$(Y,X).

Add commas and a semicolon to line #20 of the cursor addressing section:

20 PRINT FNC$(10,15);
or 20 PRINT FNC$(10,15)"Hello!"

The last mistake came in the Field Statement section. On page 52, the second line #500 program statement listed should read:

500 FIELD#1, 10 AS NUM$(1),
10 AS NUM$(2),
10 AS NUM$(3), etc.

Thanks for making these corrections known.

Gary Cuevas
Software Support Specialist
Osborne Computer Corporation

Lost and found

As a longtime user of Spellguard, let me clear up one quick point raised in Barbara Ellman's review of spelling checker programs (June '83).

She complained about having to enter the Find command ^QF* over and over again when working through her WordStar file looking for Spellguard's error flags. (The asterisk is the "flag" character Spellguard inserts to mark the location of the error in the text.)

She's forgotten her WordStar: after using ^QF the first time, use the Repeat Find command ^L. This automatically repeats the most recent Find or Find & Replace command you issued. Not only is it easier than entering ^Q* each time, but it's a lot faster too.

Michael McCarthy
Senior Technical Writer
OCC

Unsuccessful NEC-ing

My efforts to patch WordStar for NEC Spinwriters as described in the "I/O I/O, It's Off to Work We Go" article in the April/May issue have been unsuccessful. I'm using a NEC 3510.

Your consideration and cooperation in providing the correct information will be greatly appreciated.

Gary Klaawitter
Houston, Texas

Brad Baldwin, technical editor, replies: For NEC 3515, 7715 and 7725 models use WordStar's Diablo 1610/1620 printer driver. For NEC 3510, 7710 and 7720 models specify the NEC 5510/5520 printer driver. Altering PSINIT is not necessary. (These drivers provide bi-directional printing, true super/subscripting, and incremental vertical/horizontal spacing.)

My incomplete information came about because I tested the patches with NEC 3515 and 7715 printers and assumed (never assume anything!) that they would work with all NEC models. Follow-up research has shown that NEC printers come in both Diablo-compatible and NEC-compatible versions as indicated above. I apologize for the error.

OOPS!

In the June issue, we listed the incorrect address for Ruff Software's SuperGraphics and SuperGraphics Mate software packages. The correct address is:

Ruff Software, Inc.
P.O. Box 98
Plant City, FL 33566

SuperGraphics created graphic designs on the Osborne 1 for entertainment and business applications, while SuperGraphics Mate produces hard copy print of the design on Epson Graftrax Plus printers. Ruff has since added several new features including: 50, 80, 104 column widths; file overlays (superimposes one design over another); and a unique dBase II command file generator that creates screen graphics displays for dBase programs. Call (813) 681-0194 for further details and product updates.

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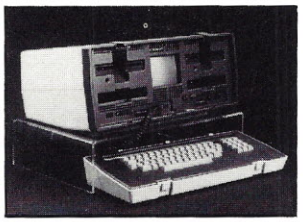

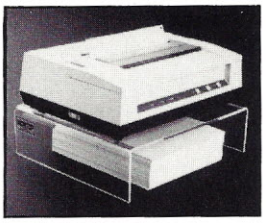

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Adam Osborne

Realities of the Marketplace

The West Coast Computer Faire in San Francisco still has the flavor of computer fairs from the early days. There are still booths piled high with a conglomeration of hardware and software being sold at aggressively discounted prices. Also, this is the computer exposition where you still see characters you thought disappeared five years ago, but there they are, wandering around with long, unkempt hair and ill-fitting T-shirts. No NCC crowd wants this. And yet, even at the West Coast Computer Faire, these people are now a tiny minority. The microcomputer industry has grown and prospered because the middle-American worker is now buying microcomputers to use in the workplace. And these are the people asking the age old questions:

1. "Given the welter of products and options, what do I buy?"
2. "And once I have a computer, who will help me learn to use it?"
3. "And if it breaks, how will I get it fixed?"

Nothing seems to change. These are probably the same questions people asked before buying television sets in the 50's or mechanical adding machines at some earlier point in time. And yet when it comes to microcomputers, answers are not as hard to find as would appear. Why? Because you do not buy a microcomputer from a manufacturer. You buy it from a retail store, a dealer or office equipment distributor. This may seem to be a self-evident and inconsequential observation, but it has some repercussions that are not obvious. From one of these outlets you will buy only that which they carry.

Yes, there are probably hundreds of microcomputers that have been announced and certainly there are thousands of software packages in the pages of magazines. But how many of these products are really useful? If you believed everything announced in magazines the problem of choosing a product would be difficult, but go into a computer store and see how many are actually available. The answer? Very few.

And even of those that are available, just a handful of microcomputers are carried by the top flight dealers, the ones who know how to support their customers and the only dealers with whom you should be dealing. IBM, Apple and Osborne. These are the brands that you will see again and again in the windows of the top quality dealer showrooms. Computer stores that cannot carry these brands will take knock-offs or copies instead. The hardware by decision is not so difficult after all. You choose a dealer with whom you are comfortable and that limits you to the brands which that dealer carries.

Are you short-changing yourself by so limiting your computer choices? Indeed no. The truth of the matter is that most microcomputer are adequate for most people's needs if you simply look at the microcomputer as advertised. The problems you will encounter are all associated with after sales service and support. That is why it is so important to establish a good relationship with your dealer. Will your dealer service your product for you? Believe it or not, there are still some microcomputer manufacturers (one of whom sells quite a lot of microcomputers) who expect customers to ship their microcomputer back to the factory any time a repair is required.

Having established a relationship with the dealer, the software problem is also largely resolved for you. Either the software you need is bundled with the microcomputer (as in our case) or the dealer has made the choices for you. If you want a tax package for example, a dealer is unlikely to wave his arm at 200 packages spread across a wall. The dealer will have decided which package he wishes to carry and that is the obvious choice for you.

Once you walk out of a dealer showroom with your computer under your arm, there are other places besides the dealer's showroom where you can get help learning how to effectively use your microcomputer. Perhaps the most important place to go is your local user group. User groups are enormously effective self-help groups. In most user groups you will find a core of truly knowledgeable people who frequently know more about the microcomputer than the manufacturer. These are the true enthusiasts, rather than the general user, and their enthusiasm extends all the way to helping other people learn what they have discovered. Your first step after buying a microcomputer should therefore be to attend the next meeting of your local user group.

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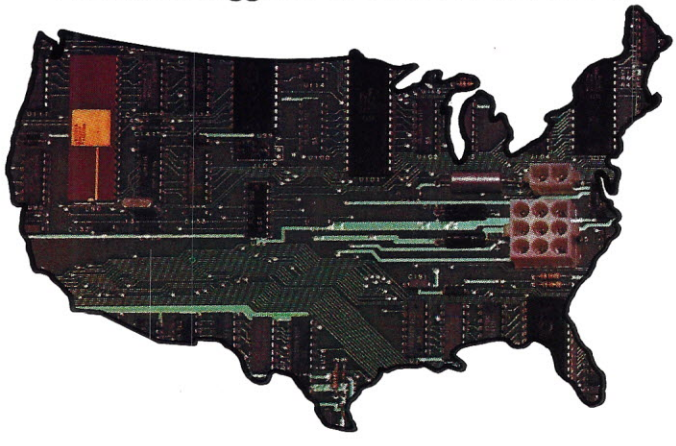

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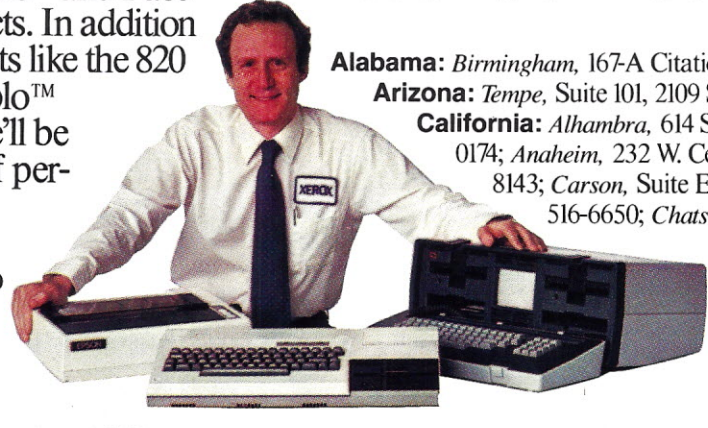

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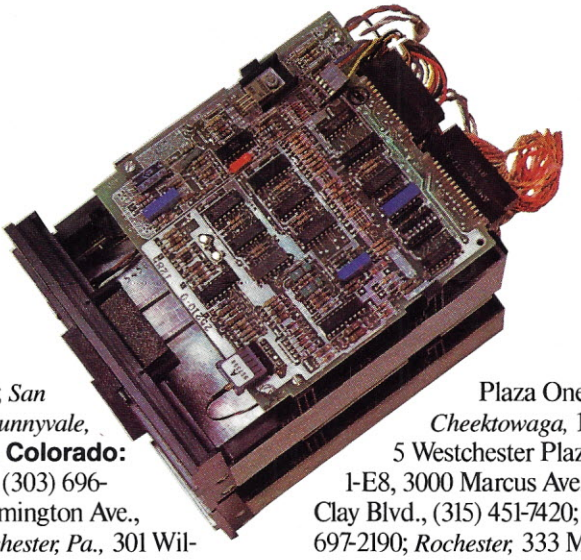

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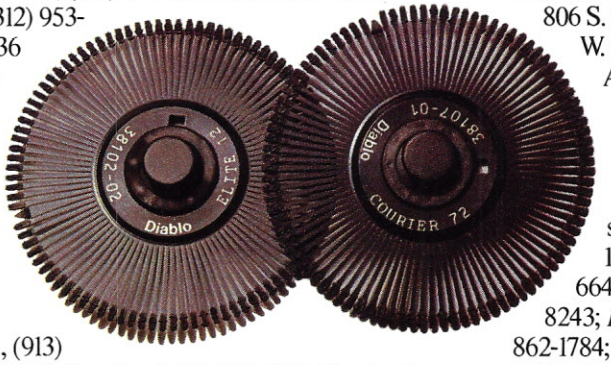

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The Wizard

SuperUsers

Brad Baldwin

Our first experiences with using a computer could be equated to that of playing an adventure game. At every turn there are new challenges, hidden pathways, and mysterious gremlins. Mistakes or incorrect decisions are part of the game learning experience and prove just as educational as making the right decision. Sometimes it's frustrating, often irritating, but successfully completing the game is always rewarding. Unfortunately, some never make it.

As technical editor and former Osborne technical correspondent, I've responded to a few letters from discouraged and frustrated users. Some of the frustration comes from wanting to immediately conquer the computer without going through normal learning curves. Hurdles are often treated as impenetrable barricades impeding all progress and further development. The inevitable angry letter quickly follows: "I'm OK, but you're not. Why don't you write documentation that is understandable, design software that can be used by human beings, build a computer that does what I'm thinking..." and so on.

Overnight expertise is not realistic, or even obtainable. A college course might take ten weeks to complete; why should developing expert programming techniques come any sooner? There is also the matter of individual instruction: teachers, instructors, and professors are important because it is not always possible to learn the finer details of a subject from books. Besides, most people learn faster and develop a greater understanding of a particular subject through interactive communication.

The *Portable Companion* works hard to be the next best thing to face-to-face personal instruction. We listen to your needs and desires, your frustrations and problems.

When seemingly impenetrable barricades block your path, let your friendly *Portable Companion* know. Together, we'll have you back in the game leaping over tall buildings with a single dBASE command and programming faster than a speeding bullet.

Q: I need help with the "Using XDIR to Create a Disk Directory" article on page 67 of the Dec/Jan issue of

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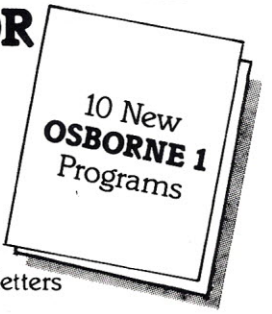

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the *Companion*. Everything works except use of the command:

XDIR B:*.* A:-001A

This command does not produce a file "-001A" containing the listing of the files on the diskette in drive B. I have tried other arrangements of the command with no luck. And, of course, XDIR is not detailed in the Osborne *User's Reference Guide*.

Please advise what changes are required in order for me to make a disk directory with my Osborne 1 (double density).

A: None—it should work as specified with either single or double density computers. There could be an error in your XDIR program; we have not received any other complaints with that article or XDIR in general.

Make sure a space exists between the * and the A:. The command does not work without it.

XDIR.COM, incidentally, is a public domain program placed on Osborne software as an added convenience *without* charge to the user. Mention of XDIR is excluded from the manual because of certain gray areas of public domain copyright laws and ownership.

Q: I created a small random access file and a program (MBASIC) to select records from it based on any combination of data in the various fields. When searching on the basis of data in two of the three searchable fields, I got repeated BDOS ERR ON B: BAD SECTOR for a particular combination within those two fields; the error was always at the same place. Searching on the basis of the same two fields, but for different entries, didn't produce the error. When the trace facility (TRON) was on, the error didn't occur. I'm using double density.

I ran my program on another double density Osborne 1 and it worked fine. What's going on?

A: We can intuitively figure out that TRON slows down the program allowing it to complete execution. We can also conjecture that the entries causing the problem are probably "worst case" time guzzlers. (It would be helpful for us to have your program and data base listings.)

Try running System Checker, an Osborne diagnostic software package, on your computer to analyze memory and drive functioning. It sounds like a hardware timing problem—probably a bad disk drive or disk controller. Let us know where we can send the get well card.

Q: I recently upgraded my computer from single density to double density; my computer now uses 1.4 BIOS instead of 1.3 BIOS. Addresses for BDOS, formerly at E5xx, are now at E1xx causing problems in software I have downloaded from bulletin boards. Could you clarify these BIOS changes in your magazine?

A: Double density is a different product with expected changes to both hardware and software. The 1.4 BIOS upgrade added a printer initialization string, IEEE device addressing, IX/IY register preservation, and variable disk format recognition. At the same time, ROM was upgraded to 1.4. It added multi-density formatting, moved I/O functions from BIOS to ROM, increased the size of BMRAM, and provided a graphics offset.

Assembly language programmers can determine the address of BDOS and CCP for versions A through 1.4x with the chart below.

Version #	Start of BIOS address
Rev A	EA00
Rev 1.2	E600
Rev 1.3	E500
Rev 1.4x	E100

DISCLAIMER! OCC does not guarantee that the direct call address is consistent—addresses in the jump table are dependent on the current size of CP/M. OCC might change it, a user might change it (MOVCPM), or the software vendor could change it.

The practice of making absolute location calls for the jump table is strongly discouraged.

Why? It is poor programming technique to make calls to a memory location that may move, and in the case of the Osborne 1, *has* moved. Such programs are no longer transportable, as you saw happen with the bulletin board programs. The programmer should always use BDOS functions to keep the program compatible with other CP/M machines and other Osborne versions. Retrieve the address for the warm boot from location 1 and 2; LHLD 1 is an assembly instruction that can retrieve that address. The offset for any other jump in the jump table has *always* been consistent in relation to the warm boot.

Programs published in this magazine before the release of double density didn't always follow "transportable" programming procedures. For example, in the Dec/Jan 1982 issue of the *Companion* we ran an assembly program titled "Disk Snooping" that will not run on double density computers due to the absolute location calls. The addresses could be changed to reflect the current 1.4x status and thereby run the risk of repeating the same error, or the appropriate call to the warm boot address could be inserted.

The chart below gives an idea of the 400 hex offset that now occurs between 1.3 and 1.4 machines. (The addresses are examples from "Disk Snooping.")

Rev 1.3	Rev 1.4	
E527	E127	Read from disk
E52A	E12A	Write to disk
E51B	E11B	Select disk drive
E524	E124	Set disk memory address
E51E	E11E	Set track to read/write
E521	E121	Set sector to read/write

Q: I own a Brother HR-1 printer that I use with my Osborne. Recently, I discovered eight special characters on the daisy wheel that I am unable to print. These are: ± ² ¼ ¶ § ¢ ³.

The store where I purchased my system has been helpful with other matters, but printer questions seem to throw them for a loop.

I could call Brother Industries in Nagoya, Japan, but I made the mistake of taking French in high school instead of Japanese and Printerese. Can you help me?

A: Oui, mais bien sûr! How can "le Ouiz" résiste such a "cha lánge"?

Inspector Clouseau used the following resources to solve this "Case of the Missing Characters": 1) the Brother HR-1 printer manual's ASCII control code chart (page 27, serial model; page 23 parallel model); 2) Osborne 1's ASCII control code charts (last pages of spiral bound manual, pages 84-85 in the Aug/Sep '82 *Companion);* 3) WordStar 2.26; and 4) a daisy wheel printer (non-Brother) for control purposes.

The HR-1 manual lists in their ASCII code chart hex codes for all the characters on the daisy wheel font. They were matched to the appropriate hex code for the Osborne, which is a standard character set. Two of the characters (± ²) could have been found by typing all of the keyboard characters. That's not the case with the °, ¼, ¶ and § symbols. They are accessed by pressing Control (CTRL) and the symbol indicated—a process that is not as obvious, but was reported in a previous *Companion*. Of course, what you see on the screen will be different from what the HR-1 prints. It doesn't matter, as long as the hex codes are the same.

Keystroke	HR-1	Osborne 1	Hex
\	±	\	5C
^	²	^	5E
CTRL =	°	`	60
CTRL ,	¼	{	7B
CTRL .	¶	}	7D
CTRL /	§	~	7E
??	¢	??	??
??	³	??	??

Figure 1

I did not find any mention of the ¢ and ³ symbols in the HR-1 manual. Make sure those characters actually exist by directly examining the petals of the daisy wheel font.

Q: How can I use a phone with the COMM-PAC modem? I realize that AMCALL performs automatic dialing, but sometimes I'd rather use MODEM7 (with dialing features enabled) than AMCALL.

A: From a electronics store, purchase a dual modular phone connector and second phone cord with modular connectors on each end. See page 68 in your COMM-PAC manual for instructions and illustrations.

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Quietly producing copy at 18 cps Shannon text speed, the Transtar 130 also features a unique autoload button to make printing on letterheads a breeze! Three new daisy wheels have just been made available for the 130 from your dealer: letter gothic (shown), script, and a 15-pitch "gothic mini"—perfect for printing spreadsheets to fit on one page!

Offering an end-user warranty period of a full six months, the Transtar 130 is an extraordinarily reliable machine. Its minimal failure rate runs less than 1%, but if your 130 should ever need repair, a nationwide network of authorized Transtar service centers stands ready.

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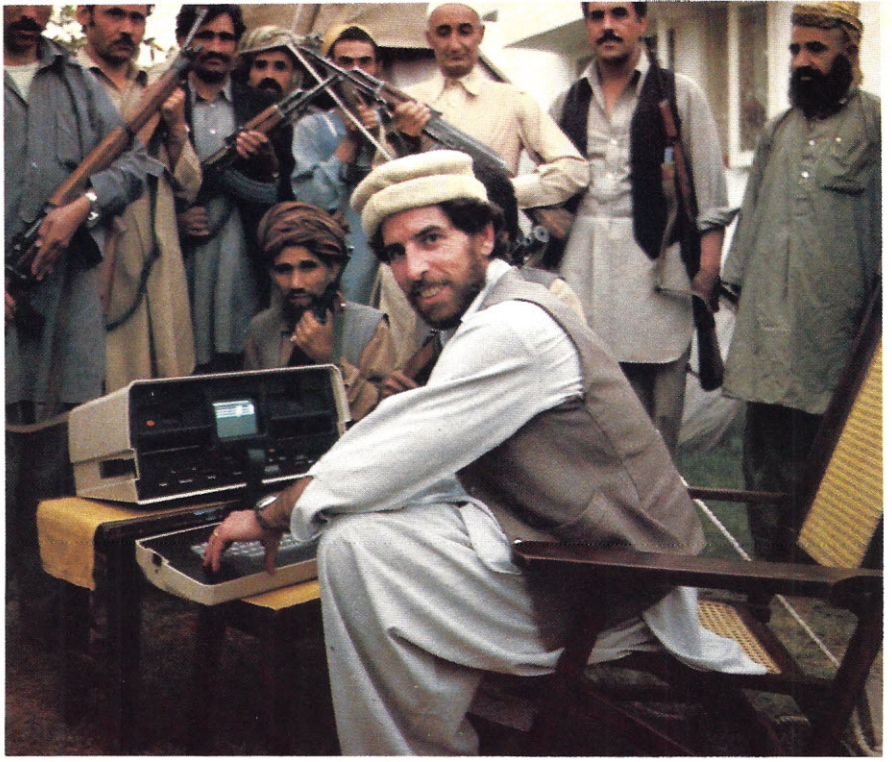
Me and My Ramblin' Osborne

Traveling with your computer

David Kline

Traveling with your portable computer is a little like smuggling contraband across international boundaries. There's an air of mystery, a whiff of danger, a vision of private indulgence behind locked doors in your hotel room. Most people haven't the faintest idea what you're carrying in that funny looking case as you amble through the airport terminal towards the departure gate. A few people, however, smile knowingly—a wink here, a whispered remark there—as you breeze by.



Impact Features

Kline, flocked by a group of Afghan rebels (yes they're real folks) and his favorite traveling companion.

"Mommy, why's that man carrying a sewing machine?"

"That's no sewing machine, Suzy. That's his computer."

"Why's he carrying a computer?"

"So he can be smarter than other people wherever he goes, Suzy."

"If he's so smart, then why's he all sweaty from dragging that heavy computer with him?"

Traveling with a portable computer brings to mind bygone days when Volkswagen owners used to honk as they drove past each other. Indeed, it wasn't that long ago when a small car lacking tail fins was a real novelty, a genuine curiosity. I remember my mother wondering aloud, as I strained to peer over the dashboard of our '55 Ford, how anyone could possibly squeeze into a car that small. I wondered what those Volkswagen owners knew that the rest of us didn't.

Well, times have changed, but America's addiction to ever-new technologies hasn't. Today portable computers are a novelty. Tomorrow every Rotarian will have one. Today, they're good conversation openers at parties. Tomorrow, you'll be the same nerd around women (or men, as the case may be) you always were.

The point is this: these days, while portable computers are still quite rare, few people have much experience in actually "porting" them around. Indeed, the care and feeding of your Osborne while it's on the road—the dos and don'ts of computing in the fast lane—is an unknown science even to most Osborne owners. So here are five simple rules for traveling with your Osborne:

1. Pack Wisely

If you're the type of person who drills holes in his toothbrush handle to cut down on travel weight, you may not want to be dragging a portable computer with you, whether it weighs 24 or only 15 pounds. I, on the other hand, am the sort of person who brings five ties because I can't decide which one to wear. But if you decide that you really do need portable computing power and that it's worth a little inconvenience, here's what you'll need to bring along just for travel within the United States:

- One plastic disk-travel box containing two of each application program diskette you'll be using (always have back-ups), and twice as many blank formatted disks as you think you'll actually need. If you plan to travel to a dusty or dirty environment—say you're going camping for a month in Death Valley—then you should also bring one head-cleaner disk.
- An old style three-to-two-prong adaptor plug (with each prong the same width) because wall sockets in many older hotels and offices won't accept the new-fangled "polarized" plugs.
- Documentation for any application program you don't already know by heart.
- A list of Osborne representatives, if any exist, in the cities you're visiting.
- Unless you're certain that you'll be able to use a modular-plug direct-connect modem where you're going, bring a lightweight acoustic modem, such as the U.S. Robotics Phone-Link which, with its power supply, weighs only 20 ounces. An acoustic modem, however, will probably restrict you to 300 baud transmission.
- A few extra fuses for your 120V AC current card in the blue-case Osbornes.

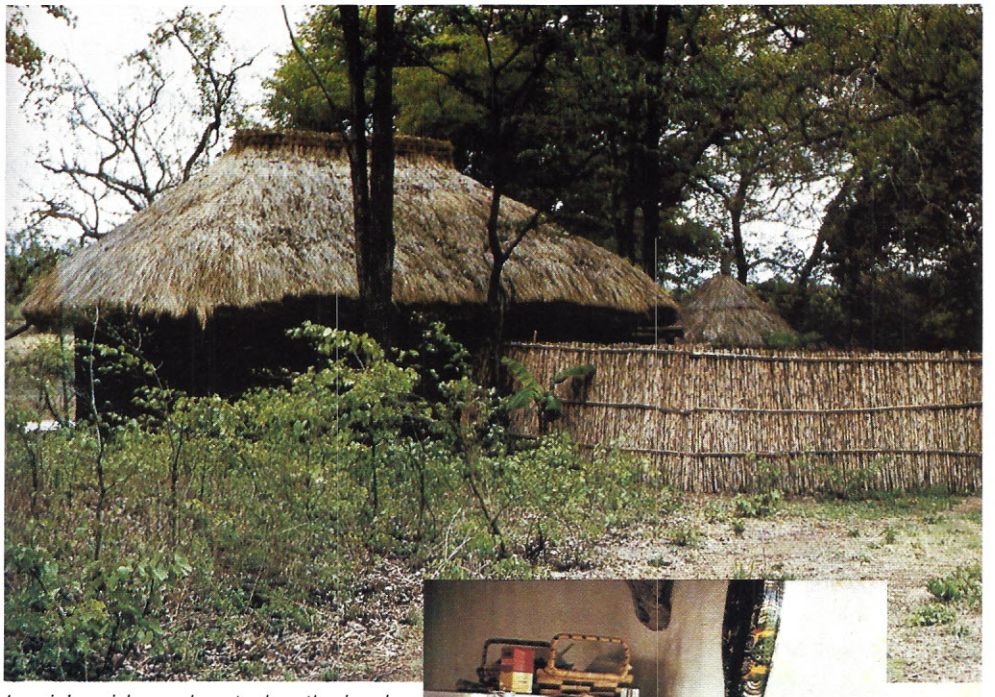
If you're traveling to another country, however, you'll need to bring the following additional items:

- Adaptor plugs designed to fit the electric wall outlets of the countries you're traveling to (available from any electronics supply store or Radio Shack). There are about five different styles in use in the world today.
- A few extra fuses for any foreign 220V AC current environment—if you've got the blue-case Osborne with current-

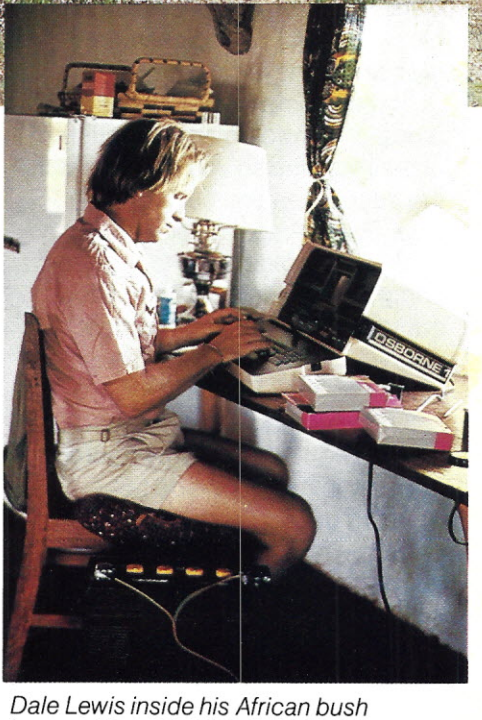
"...the care and feeding of your Osborne while it's on the road—the dos and don'ts of computing in the fast lane—is an unknown science to most Osborne owners."

change ability, that is. If you have the older tan-case machine, you'll need a small Phillips screwdriver and a tiny Allen-wrench (to remove the screen brightness knobs) in order to get inside the machine and alter the power supply. This, by the way, is not at all a difficult job. Any Osborne dealer can probably show you how to change the current from 120V to 220V or back in ten minutes.

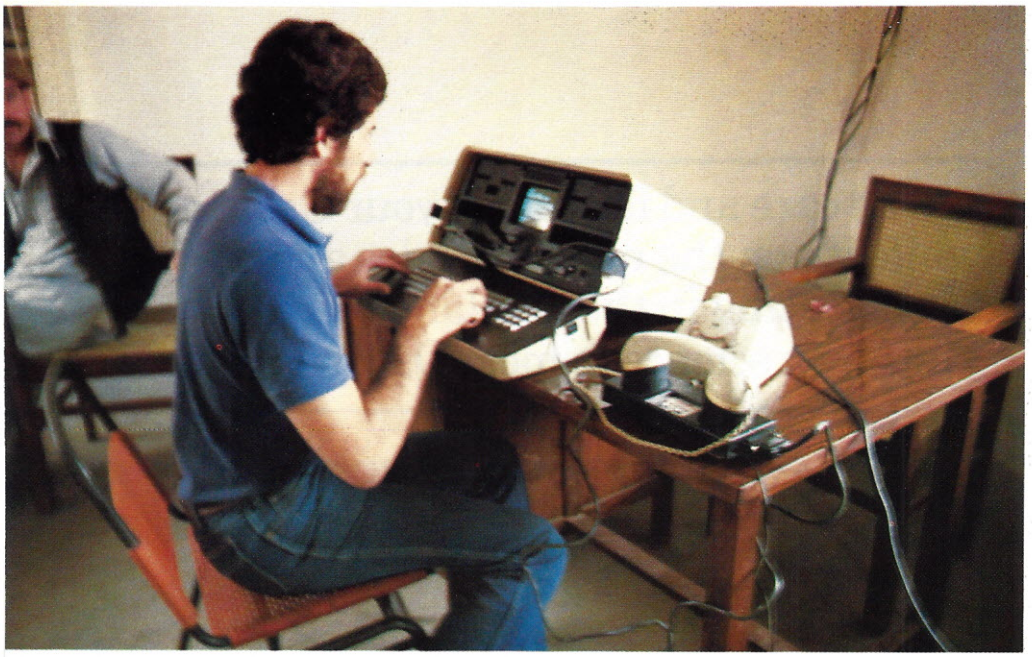
- A current converter, available at electronic stores for less than $10, to power your modem or other 120V peripherals in a 220V environment. It is not recommended that you use such an outboard converter to power the Osborne itself, however, since this device does not alter the cycling of the current from its normal 60 hz to 50 hz.
- Though probably not essential, a voltage spike suppressor is also not a bad idea to bring along when visiting some underdeveloped countries with irregular and erratic electrical systems. If you'll be computing in a 220V environment, the suppressor will, of course, need to be modified. Electronic Specialists in Massachusetts makes a good unit, and they'll modify it to 220V for you if you ask them.
- A few retail brochures and magazine advertisements on the Osborne. I've found this very useful with customs and security forces in countries



Lewis' residence located on the banks of the Luangwa River in Zambia.



Dale Lewis inside his African bush home with the Osborne.



Impact Features

Filing a story via an acoustic coupler modem.

not familiar with the concept of a "personal" computer. More on this later.

- One tube of Super-Glue (those plastic case locks that hold the keyboard folded in place make me nervous).

In addition to the items recommended above, another travel tip comes from David Gray, a Florida-based missionary who flies his Osborne down to the Haitian jungles with him on medical mercy trips to aid the locals.

"I'd recommend attaching a good piece of styrofoam on the bottom of the machine so you don't scratch the case when you set it down," says Gray. "Also, I'm looking for a webbed shoulder-bag to carry the computer in...something to allow me to strap it over my shoulder and yet evenly distribute the weight."

If these sound like good ideas to you, go right ahead. But I figure the plastic case is made to be scratched, and the suitcase-style carrying handle is good enough for me.

2. Don't Feed the Gorillas

There really are gorillas at the other end of those luggage conveyor belts, so never—repeat, NEVER—check your computer as luggage. Portable computers will truly be of briefcase size and weight long before they're engineered to withstand baggage handlers, so just strike the idea of checking it right from your mind now and forever.

This means, of course, that you've got to carry it with you through the airport and on the plane. This is where most people begin to question whether they really need to bring the Osborne with them after all. In Chicago's airport, for instance, where the walk from ticket counter to departure gate may be longer than a mile, even a football player can get tired carrying his Osborne (or at least end up with one arm longer than the other). So one of those fold-up luggage carts might be useful for the less-muscled among us. Also, be aware that the computer may not always fit under an airline seat (despite propaganda from certain quarters to the contrary). You can usually get a flight attendant to place it in one of the coat closets or overhead racks.

3. Be Nice to Airport Security

They have guns and you don't—never forget this elementary truth. Nonetheless, while maintaining a pleasant attitude with airport security personnel, I do not allow my floppy disks to go through x-ray or other scanning machines. Instead, I insist on a hand-check. Airport officials, of course, claim their machines won't harm film or magnetic tape, but I don't believe them. At the very least, I can't see how those machines could possibly be beneficial to either film or floppies. So my advice is, stick with hand-checks of your floppies. In that regard, only the Paris and Geneva airports refuse to allow hand-checks of carry-on luggage under any circumstances, so if you pass through these cities, you'll probably want to put the disks in with checked luggage.

As for the computer itself, it's fine to pass it through the scanners. As far as I know, this doesn't hurt the Osborne's innards, and running the computer through the scanner without opening it has the added advantage of not arousing the curiosity of the security police, most of whom (if you're overseas) have never seen nor even heard of a "personal" computer.

I recall once going through Karachi customs, however, when a soldier demanded I open the Osborne up. I flipped down the keyboard, and he poked at it with the barrel of his German-made G-3 assault rifle.

"Mistuh, wat es thees?" he asked gruffly.

"Uh, yeah, man...it's a Hollywood typewriter, okay?" A helpful smile was imprinted upon my face. After some head scratching, the soldier seemed satisfied, and he reluctantly allowed me to continue my journey.

On another occasion, going through customs in Bogota, I was approached by an official of the DAS, which is Colombia's local equivalent (sans black loafers) of

> "If you're the type of person who drills holes in his toothbrush handle to cut down on travel weight, you may not want to be dragging a portable computer with you..."

the CIA and FBI rolled up into one. He wasn't impressed with my "Hollywood typewriter" story, so I had to bring out the magazine advertisements showing what a personal computer was. In the end, he stamped my passport with the Osborne's serial number and the notation that I had to have the unit with me when I left the country. He wanted to make sure I didn't sell it on the black market and cheat the government out of its import tax.

On this score, please be advised that in some countries possession of an Osborne computer may be taken as prima facie evidence of employment for the CIA. Since you don't want to spend a few weeks learning the fundamentals of electrical current theory at the hot end of a police electrode, it's really best to carry some evidence of the machine's innocent albeit complicated nature with you. Thus when I'm a stranger in a strange land, I always carry that small packet of retail brochures and magazine advertisements—some visual proof that the computer is, in fact, a consumer item where you come from. If you travel in the Islamic world, however, just be sure the ads don't come from Playboy.

4. Keep Your Computer Cool and Dry

"I never remember to bring enough of that silica gel moisture absorber," says zoologist Dale Lewis, whose New York Zoological Society-sponsored African elephant research project makes use of an Osborne for radio tracking of elephants, for report writing, and for variable habitat resource-use simulations.

"It gets over 115 degrees in the Luangwa Valley in Zambia," Lewis notes, "and in the rainy season it's like being underwater. When I'm not using it, I keep the Osborne in a large vinyl, all-weather bag with lots of absorbent silica gel. The bag also helps keep creepy crawlies out of the disk drives."

You may not have to worry about African creepy-crawlies when you bring your computer on your next Caribbean cruise, but trying to minimize environmental stresses on your computer is always a good idea. Factory specifications warn that the machine should not be operated at temperatures above 85 degrees Fahrenheit, but I've used it in the Amazon jungle in a humid low-90s environment and in Pakistan at temps over 105 degrees. I don't recommend doing this for more than an hour or so at a stretch, however, and it's probably wise to save your work every five or ten minutes just in case the computer kicks out temporarily from heat stroke. Anyway, the best way to avoid the whole problem is to stay at an air-conditioned hotel.

Another method to control heat is to install a small fan in your Osborne.

5. Phone Home

From probably anywhere on this planet you have the ability to communicate articles, notes, business plans, expense reports or whatever you want from your portable Osborne to any computer back home, using an acoustic modem and a telephone. Assuming for a moment that you are outside the United States, communicating by modem has several advantages over sending the same information by telex.

- Unless you or your company have a telex of your own in a private overseas office, it's usually cheaper to make a long distance telephone call (or even better, have your U.S. station call you) and transmit at 300 baud, than it is to send a telex from a public telex office.
- It is definitely quicker and less hassle to use a modem, since you don't have to first type or print out your message and then give it to a telex operator for rekeyboarding into his system prior to transmission. As yet, there is no easy way to download your message from the computer directly into a telex machine.

  In this regard, anyone who comes up with a "black-box" device to hardwire-interface a computer with a telex (most lack RS232 ports) and at the same time to convert your computer's 8-level ASCII code to 5-level baudot (not to mention slowing it down to 50 or 110 baud) will make a bundle of bucks. The worldwide telex network is securely in place even in the most remote re-

> "Though probably not essential, a voltage spike suppressor is also not a bad idea to bring along when visiting some underdeveloped countries with irregular and erratic electrical systems."

gions and it is not about to be replaced any time soon. The task, therefore, is to come up with a means of piggybacking the up-and-coming personal computer network onto that telex network.

- Since English is probably not the telex operator's first language, your article or message is less prone to error or misspelling if you transmit it yourself from computer to computer.
- Transmitting by telex almost certainly allows the government of the country you are sending from to read your message, since communications systems are usually government-owned and operated overseas. Modem transmission is thus more secure. Another advantage of having your U.S. station call you rather than the other way around is that there is less chance of operator interference.

With all these advantages, why would anyone ever want to use telex? Sometimes you simply won't be able to get a phone call through to the States, especially from some Third World countries where phone systems can be primitive. Or, even if you can make the call, it might be so full of static and distortion that even with error-checking communications software like Modem 7 or AMCALL—and even with relatively-slow 300 baud transmission—your message will simply be too garbled. That's when you'll have to make use of telex (and that's why it would be so useful to have a computer-telex interface). If you're communicating from within the U.S. or North America, though, a computer-to-telex interface is already possible via telephone dial-up patch systems such as those offered by Graphnet ($5 monthly subscription fee) or Western Union ($35 monthly fee).

What modem should you use? I recommend an acoustic model unless you are absolutely positive that the phone system in your location is connected by modular jack. Unless you can find a modem with adjustable acoustic cuffs, you'll also have to make sure to stay in a hotel or residence with a handset that is the standard seven-and-three-quarters inches in length. These can vary, and there's nothing more frustrating (I'm speaking from experience now) than finally getting your U.S. call through, priming the computer on the other end, and then discovering that the hotel phone won't fit in your modem's handset cuffs.

One final note: contrary to the occasional rumor floating out of Osborne's Marketing Department, you do not need an export license to bring a computer overseas, as long as the equipment you're bringing is for personal use and is what's known as the "tools of your trade." There may, however, be some restrictions even on the personal use of a computer if you're going to a Communist country, so if that's your destination you might want to contact either the trade consultant in your local U.S. Department of Commerce office, or Mr. Archie Andrews of the Commerce Department in Washington itself.

If there are other tips for traveling with your Osborne that I've neglected to mention, or if you have any special questions about bringing the computer with you on your next trip, drop me a line here at the *Portable Companion*.

But this is probably enough to get you started on the road. Whether or not you'll actually need the Osborne in portable mode is something you'll have to decide for yourself. It works just fine sitting on top of a desk. But there's no denying that today the few portable computerists confront a rare window of opportunity for getting ahead in life, if they are aggressive enough, lean enough, *hungry* enough to charge ahead through it. Even while winging your way to a management seminar in St. Thomas at 37,000 feet, you can be getting the jump on the competition. While he's stiffed out in his seat over a double-scotch, a copy of some inane magazine draped over his face, you can be Super-Calcing a plan to take his accounts away from him. ("What if...What if I poisoned the sonuvabitch's coffee?")

For the rest of us, who don't necessarily live for the moment when we can sink our teeth into someone else's jugular, who knows? I suppose it's still better than being left behind by evolution, scorned as a Neanderthal in a world of coneheads.

David Kline last wrote for us in the April/May issue on "Syndicating With Your Osborne."

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Part II:

Interfacing External Devices

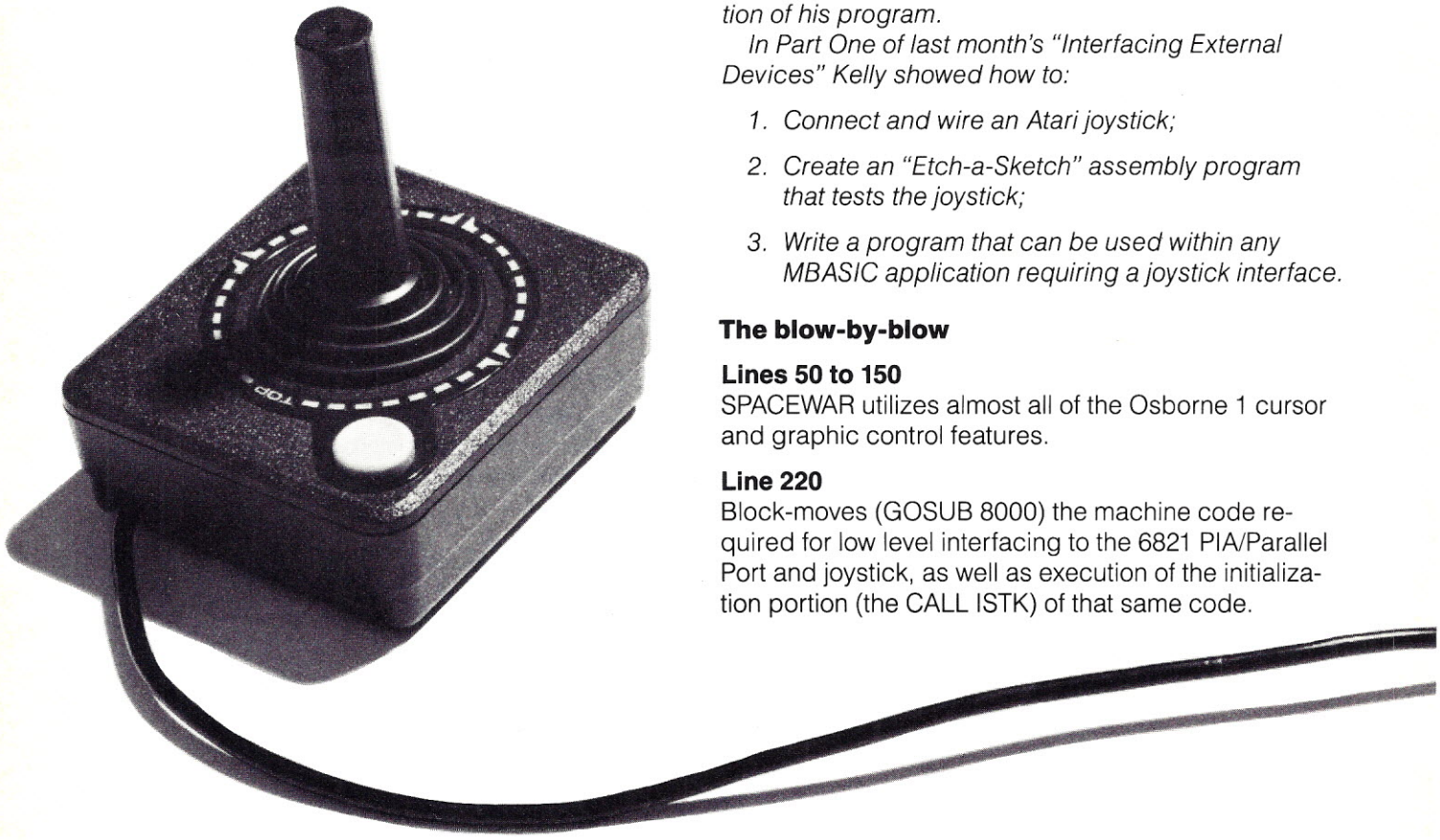
A joystick spacewar game

Kelly Smith

Editor's note—In this second of two parts, Kelly Smith of Wizard of OsZ provides a SPACEWAR game using an Atari joystick interfaced through the 6821 PIA/parallel port. Kelly also includes a "blow-by-blow" description of his program.

In Part One of last month's "Interfacing External Devices" Kelly showed how to:

1. *Connect and wire an Atari joystick;*
2. *Create an "Etch-a-Sketch" assembly program that tests the joystick;*
3. *Write a program that can be used within any MBASIC application requiring a joystick interface.*



The blow-by-blow

Lines 50 to 150
SPACEWAR utilizes almost all of the Osborne 1 cursor and graphic control features.

Line 220
Block-moves (GOSUB 8000) the machine code required for low level interfacing to the 6821 PIA/Parallel Port and joystick, as well as execution of the initialization portion (the CALL ISTK) of that same code.

Lines 230 to 570
Performs a "flashy" display of the instructions, directing the player's attention to the key control functions.

Lines 580 to 680
Sets up player's skill level and displays "Good Luck" message.

Lines 690 to 760
Displays pilot rating level, target cross-hairs, random target position coordinates and alien craft.

Lines 770 to 980
Program loop to position the alien craft, examine the player's joystick input and respond to that input. Lines 800 to 820 are "frills" to make the screen busy, with target position and run time information used as a measure of skill (i.e., "zapped all of 'em in 243 units of time!"). Line 840 reads the joystick (the "CALL RSTK"), which "drops-off" its value at memory location DSTK—the value of STK is then the content of DSTK that is PEEKed. Lines 860 to 940 translate the value read from DSTK to generate the proper X and/or Y coordinate position, or fire on the alien craft. Lines 950 to 970 are alien craft screen position updating and positioning codes.

Lines 990 to 1120
Target cross-hairs. (Carefully count the number of space characters or the display will look VERY strange!)

Lines 1130 to 1150
Displays the alien craft target, with the only graphic character used in the entire program.

Lines 1160 to 1170
Positions cursor to the desired XY coordinate position.

Lines 1180 to 1120
Checks for a possible "hit" on the cross-hair center position.

Lines 1220 to 1380
A (rather crude) explosion when player shoots the alien craft, as well as a (corny) salutation in lines 1390 to 1430. In anyone has a better way of doing an explosion in MBASIC, I would sure like to know about it...gads, this took alot of code.

Lines 1440 to 1480
Adds ten points to the score and informs the player how many alien craft were destroyed and those that were just missed.

Lines 1540 to 1600
Displays your "mission record" after having successfully clobbered all five of the little suckers...appends a possible upgrade to your skill level (yes, you can be promoted), then waits to see if you want to play again.

Lines 1690 to 1710
Target position and screen update.

Lines 1720 to 1740
Determines overall skill level/rate of play. The value assigned to "T" at line 1720 can be adjusted for harder skill rate than program allows.

Lines 1750 to 1820
Checks to see that player has not flown out of target firing range, which counts as a hit from the alien craft (one hit and it's ALL OVER!).

Lines 1830 to 1880
Calculates and displays the current pilot rating, depending on current skill level of the player.

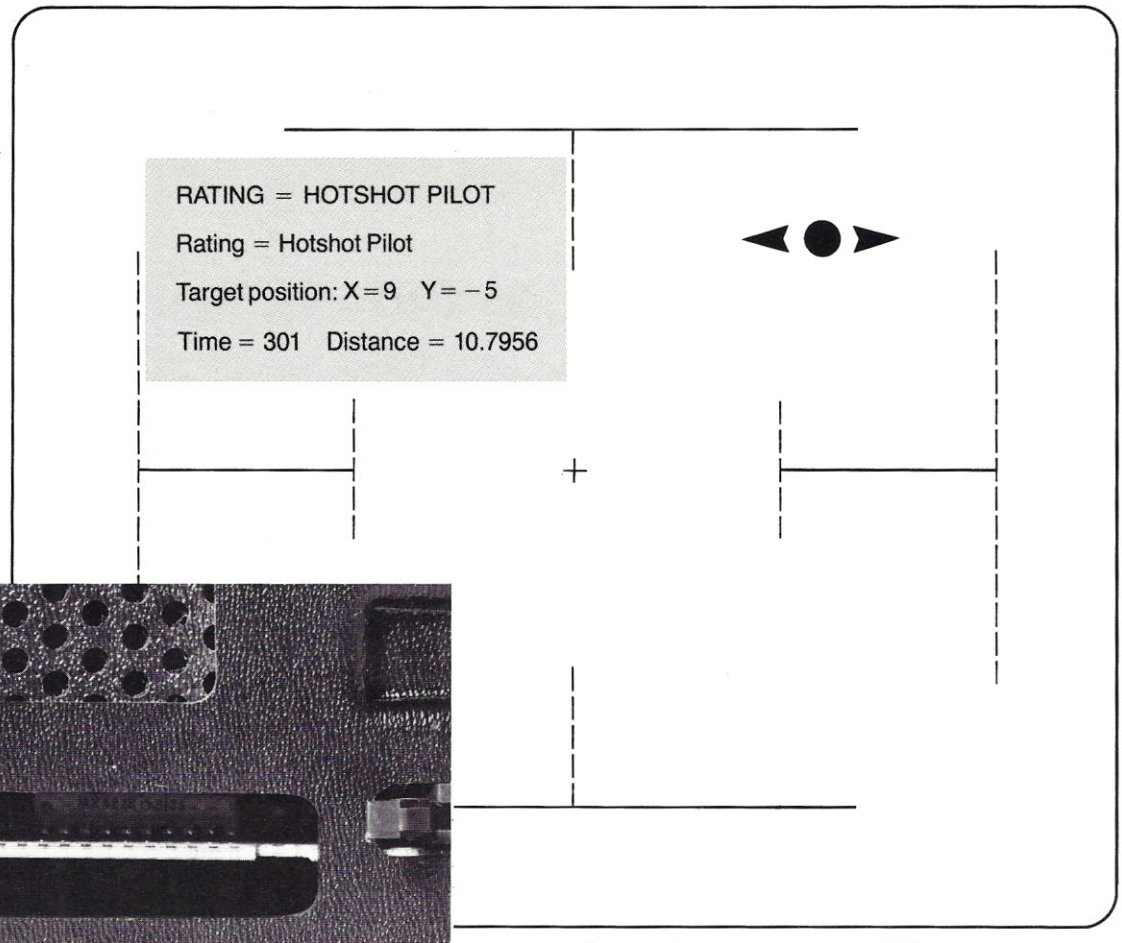
Lines 1900 to 1910
Reinstates the target cross-hair "+" sign center when overwritten by alien craft.

Lines 1920 to 1940
Prints a total score whenever there is a shot at the alien craft (either on a hit or a miss).

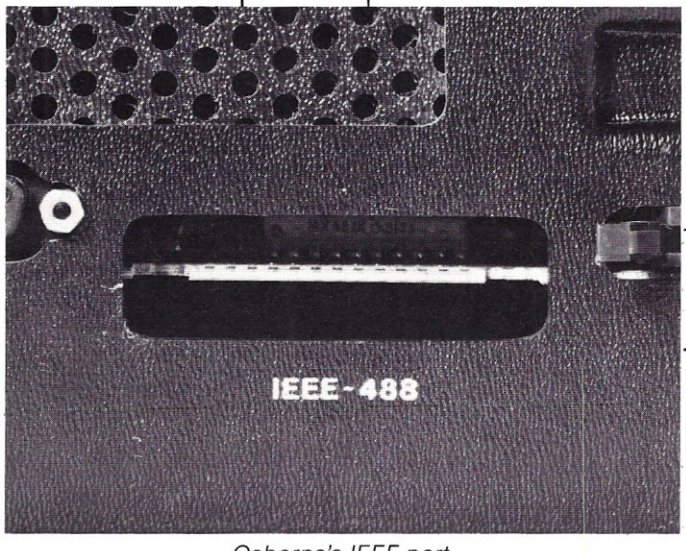
Lines 8000 to 8090
Routines required to read the joystick. In part one, I explained how to create this information from an assembly language program. For your monitor ROM version, press the reset button and view the Osborne sign-on message. For this particular program, the 1.2 monitor ROM addresses shown in the footnote will handle either 1.3 or 1.4 computers. (If you have a ROM version other than the three shown, use 1.2 values.)

SPACEWAR.BAS.

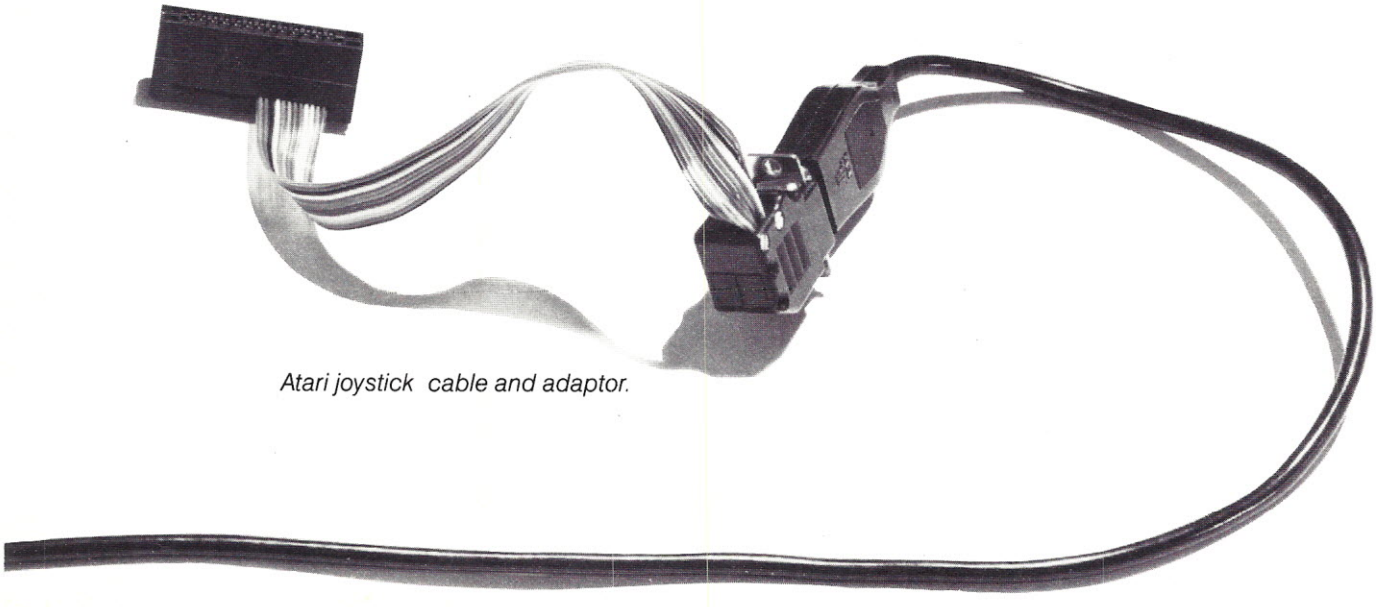
```
10 ' SPACEWAR -    (C) 1982 by the Wizard of OsZ, Ver. 1.8
15 '                                Kelly Smith
20 ' Wizard of OsZ, 9614C Cozycroft Ave. Chatsworth, CA 91311
25 '                                (213) 709-6969
30 '------------- Osborne I Terminal Commands --------------
40 '
50 E$=CHR$(27):'                    Escape Character
60 CLS$=CHR$(26):'                  Clear Screen
70 DC$=E$+"=":'                     Direct Cursor Addressing
80 GY$=E$+"g":'                     Graphics On
90 GN$=E$+"G":'                     Graphics Off
100 HO$=E$+CHR$(30):'               Cursor Home
110 EP$=E$+"T":'                    Erase to End of Line
120 DY$=E$+")":'                    DIM Display On
130 DN$=E$+"(":'                    DIM Display Off
140 UY$=E$+"l":'                    Start Underlining
150 UN$=E$+"m":'                    End Underlining
160 ' Direct cursor addressing
170 ' Location= (CHR$(Line number+32));(CHR$(Column number+32))
180 PRINT CLS$
190 PRINT"           The Wizard of OsZ - 'SPACEWAR'"
200 PRINT"            (C) 1982, by Wizard of OsZ"
210 PRINT:PRINT "       Do you require instructions (Y or N) ?";
220 GOSUB 8000:CALL ISTK ' set-up 6821 pia ports and initialize
230 A$=INKEY$:IF LEN(A$)=0 THEN GOTO 230 ' get keyboard input
240 IF A$="N" OR A$="n" THEN PRINT CLS$:GOTO 530
250 PRINT CLS$ ' clear screen
260 PRINT DY$;"You are going on a mission to destroy five"
270 PRINT "alien space craft that threaten the galaxy...In"
280 PRINT "order to destroy an alien space craft, you must"
290 PRINT "position it in the exact center of your target"
300 PRINT "sight.  To do so, use the joystick to move the"
310 PRINT "gun sight in the following directions:"
320 PRINT DN$
330 FOR I=1 TO 2:PRINT DC$+CHR$(41)+CHR$(32);EP$
340 FOR N=1 TO 10:NEXT N ' ring bell and flash message on screen
350 PRINT CHR$(7);DC$+CHR$(41)+CHR$(37);"    - ";UY$;"UP";UN$;
",   - ";UY$;"DOWN";UN$;",   - ";UY$;"LEFT";UN$;",   - ";UY$;
"RIGHT";UN$;HO$;
360 FOR N=1 TO 10:NEXT N
370 NEXT I
380 FOR N=1 TO 2000:NEXT N:PRINT:PRINT
390 FOR I=1 TO 2:PRINT DC$+CHR$(43)+CHR$(32);EP$
400 FOR N=1 TO 10:NEXT N ' ring bell and flash message on screen
410 PRINT CHR$(7);DC$+CHR$(43)+CHR$(32);"To fire on the alien
space craft, press the "UY$;"BUTTON";UN$;"."
420 FOR N=1 TO 10:NEXT N
430 NEXT I
440 FOR N=1 TO 2000:NEXT N:PRINT:PRINT
450 PRINT DY$"Also, time is an important factor on your"
460 PRINT "mission.  Alien return fire degrades your target"
470 PRINT "aiming ability, so don't delay!  Your performance is"
480 PRINT "based  on the number of alien space craft  destroyed"
490 PRINT "to the number of misses...":PRINT
500 PRINT "Please  enter you  current  rating  now  as follows:"
510 PRINT DN$
520 FOR N=1 TO 500:NEXT N
530 FOR I=1 TO 2:PRINT DC$+CHR$(54)+CHR$(32);EP$
540 FOR N=1 TO 10:NEXT N ' ring bell and flash message on screen
550 PRINT CHR$(7);DC$+CHR$(54)+CHR$(35);UY$;"N";UN$;" - Novice, ";
UY$;"H";UN$;" - Hotshot, "UY$;"E";UN$;" - Expert, ";UY$;"A";UN$;
" - Ace ?";
560 FOR N=1 TO 10:NEXT N
570 NEXT I
580 V$=INKEY$:IF LEN(V$)=0 THEN GOTO 580 ' get keyboard input
and create rating value
590 IF V$="N" OR V$="n" THEN V=100 ' novice rating
600 IF V$="H" OR V$="h" THEN V=50 ' hotshot rating
610 IF V$="E" OR V$="e" THEN V=10 ' expert rating
620 IF V$="A" OR V$="a" THEN V=5 ' ace, and you better be fast
on this one!
630 PRINT CLS$ ' clear screen
640 FOR I=1 TO 6:PRINT DC$+CHR$(44)+CHR$(32);EP$
650 FOR N=1 TO 30:NEXT N ' flash message on screen
660 PRINT DC$+CHR$(44)+CHR$(43);"Good luck on your mission !!!";
670 FOR N=1 TO 30:NEXT N
680 NEXT I
690 D=1:D1=1:PRINT CLS$ ' clear screen
700 GOSUB 1830 ' display initial pilot rating
710 Y=6:X=0:GOSUB 1160:GOSUB 990 ' display cross-hairs
720 Y=2:X=14:GOSUB 1160:PRINT "Target Position: "
730 Y=INT(10*RND(1)+7) ' set y axis random bounds
740 X=INT(20*RND(1)+21) ' set x axis random bounds
750 GOSUB 1160 ' position to xy coordinate
760 GOSUB 1130 ' display target
770 GOSUB 1720 ' advance alien target position
780 P=Y:Q=X:Y=2:X=31:GOSUB 1160 ' save xy position, position
next message
790 PRINT "X =";Q-25;"Y =";P-12 ' display alien target coordinates
800 Y=3:X=13:GOSUB 1160:PRINT "Time =";R;:R=R+1 ' display relative
run time
810 D2=SQR(((P-12)^2)+((Q-25)^2)) ' compute distance to target
820 Y=3:X=25:GOSUB 1160:PRINT "Distance =";D2;EP$ ' display
distance to target
830 Y=P:X=Q ' restore original xy coordinate values
840 CALL RSTK:STK=PEEK(DSTK):IF STK=0 THEN GOTO 770 ' check for
joystick input
850 GOSUB 1160 ' position to xy coordinate
860 IF STK=5 THEN X=X+1:Y=Y-1 ' move north/east
870 IF STK=4 THEN X=X+1 ' move right (east)
880 IF STK=6 THEN X=X+1:Y=Y+1 ' move south/east
890 IF STK=8 THEN X=X-1 ' move left (west)
900 IF STK=10 THEN X=X-1:Y=Y+1 ' move south/west
910 IF STK=2 THEN Y=Y+1 ' move down (south)
920 IF STK=9 THEN X=X-1:Y=Y-1 ' north/west
930 IF STK=1 THEN Y=Y-1 ' move up (north)
940 STK=STK AND 16:IF STK=16 THEN GOTO 1180 ' fire on target
950 GOSUB 1690 ' erase target position
960 GOSUB 1160 ' position to xy coordinate
970 GOSUB 1130 ' display target
980 GOTO 770 ' repeat erase/move/position/display sequence
990 PRINT DY$;"                    ";UY$;"                    ";UN$
1000 PRINT "                              |"
1010 PRINT "                              |"
1020 PRINT "                              |"
1030 PRINT "      |                                          |"
1040 PRINT "      |                                          |"
1050 PRINT "      |";UY$;"          ";UN$;"|        +         |";
UY$;"          ";UN$;"|"
1060 PRINT "      |                    |                     |"
1070 PRINT "      |                    |                     |"
1080 PRINT "      |                    |                     |"
1090 PRINT "                           |"
1100 PRINT "                           |"
1110 PRINT "                ";UY$;"                    ";UN$;DN$
1120 RETURN
1130 PRINT"<-";GY$;CHR$(13);GN$;"->": ' target display
1140 P=Y:Q=X ' save xy position
1150 RETURN
1160 PRINT DC$+CHR$(32+Y)+CHR$(32+X); ' position to xy coordinate
1170 RETURN
1180 IF Y=12 THEN GOTO 1200 ' proper line for hit on target?
1190 GOSUB 1490:GOTO 750 ' no, show total number missed
1200 IF X=25 THEN GOTO 1220 ' proper column for hit on target?
1210 GOSUB 1490:GOTO 750 ' no, show total number missed
1220 Y=12:X=26:GOSUB 1160:PRINT GY$;CHR$(13);"+";CHR$(13);
GN$ ' explosion
1230 Y=11:X=27:GOSUB 1160:PRINT GY$;CHR$(13);GN$
1240 Y=13:X=27:GOSUB 1160:PRINT GY$;CHR$(13);
GN$ ' a quick puff of smoke...
1250 Y=12:X=25:GOSUB 1160:PRINT "+ + +"
1260 Y=11:X=26:GOSUB 1160:PRINT "+ +"
1270 Y=13:X=26:GOSUB 1160:PRINT "+ +"
1280 Y=10:X=27:GOSUB 1160:PRINT "+"
1290 Y=14:X=27:GOSUB 1160:PRINT "+" ' alien craft coming unglued...
1300 Y=12:X=25:GOSUB 1160:PRINT " "
1310 Y=11:X=28:GOSUB 1160:PRINT " "
1320 Y=10:X=27:GOSUB 1160:PRINT " "
1330 Y=13:X=26:GOSUB 1160:PRINT " "
1340 Y=12:X=29:GOSUB 1160:PRINT " "
1350 Y=13:X=28:GOSUB 1160:PRINT " "
1360 Y=14:X=27:GOSUB 1160:PRINT " "
1370 Y=12:X=27:GOSUB 1160:PRINT " "
1380 Y=11:X=26:GOSUB 1160:PRINT " " ' alien craft destroyed
1390 FOR I=1 TO 2:PRINT DC$+CHR$(54)+CHR$(32);EP$
1400 FOR N=1 TO 50:NEXT N ' ring bell and flash message on screen
1410 PRINT CHR$(7);DC$+CHR$(54)+CHR$(37);UY$;"M A Y";UN$;"  ";UY$;
"T H E";UN$;"  ";UY$;"F O R C E";UN$;"  ";UY$;"B E";UN$;"  ";UY$;
"W I T H";UN$;"  ";UY$;"Y O U";UN$;
1420 FOR N=1 TO 50:NEXT N
1430 NEXT I:PRINT DC$+CHR$(54)+CHR$(32);EP$
1440 S=S+10:GOSUB 1920 ' add 10 to total score, and display total
score
1450 Y=20:X=17:GOSUB 1160 ' position cursor for next message
1460 PRINT "Aliens Destroyed =";D1 ' add 1 to alien craft hit
1470 D1=D1+1:IF D1=6 THEN 1540 ' close up shop if all 5 destroyed
1480 GOTO 730 ' continue with next target
1490 S=S-10:GOSUB 1920 ' subtract 10 from total score, and display
total score
1500 P=Y:Q=X:Y=21:X=17:GOSUB 1160 ' position cursor for next message
1510 PRINT "Aliens Missed =";D:D=D+1 ' add 1 to alien craft missed
1520 Y=P:X=Q:GOSUB 1160 ' position to xy coordinate
1530 RETURN
1540 Y=20:X=0:GOSUB 1160 ' position to xy coordinate
1550 D=D-1 ' subtract -1 to number missed
1560 PRINT "    Congratulations, You have saved the galaxy !!!"
1570 PRINT "       Your mission record:";INT(5/(5+D)*100);
"% performance"
1580 IF 5/(5+D)*100>75 THEN V=V-50
1590 IF 5/(5+D)*100<51 THEN V=V+50
1600 Y=21:X=7:GOSUB 1160
1610 PRINT DC$+CHR$(54)+CHR$(32);EP$
1620 FOR N=1 TO 100:NEXT N '  flash message on screen
1630 PRINT DC$+CHR$(54)+CHR$(40);"Do you want another mission
(Y or N) ?"
1640 FOR N=1 TO 100:NEXT N
1650 A$=INKEY$:IF LEN(A$)=0 THEN GOTO 1610
1660 PRINT DC$+CHR$(54)+CHR$(32);EP$
1670 IF LEFT$(A$,1)="Y" OR LEFT$(A$,1)="y" THEN PRINT CLS$:GOTO 530
1680 PRINT CLS$:SYSTEM
1690 PRINT DC$+CHR$(32+P)+CHR$(32+Q); ' position cursor to target
location
1700 PRINT "     " ' erase target location
1710 RETURN
1720 T=T+1.5 ' set overall skill level (3 is super!)
1730 IF T>V THEN 1750
1740 RETURN
1750 IF X>36 THEN GOTO 1790
1760 IF Y<12 THEN GOTO 1790
1770 X=X+1:Y=Y-1:GOSUB 1690:GOSUB 1160:GOSUB 1130:GOTO 1800
1780 GOTO 1800
1790 X=X+1:Y=Y-1:GOSUB 1690:GOSUB 1160:GOSUB 1130:GOTO 1800
1800 IF X>45 OR X<1 THEN Y=12:X=19:V=V+10:GOSUB 1160:PRINT CHR$(7);
"You're shot down!":GOSUB 1890:GOTO 1600
1810 IF Y<7 OR Y>18 THEN Y=12:X=19:V=V+10:GOSUB 1160:PRINT CHR$(7);
"You're destroyed!":GOSUB 1890:GOTO 1600
1820 T=0:RETURN
1830 IF V<=5 THEN Q$="Rating = Ace Pilot":GOTO 1870 ' determine
pilot rating
1840 IF V<=10 THEN Q$="Rating = Expert Pilot":GOTO 1870
1850 IF V<=50 THEN Q$="Rating = Hotshot Pilot":GOTO 1870
1860 Q$="Rating = Novice Pilot"
1870 Y=0:X=17:GOSUB 1160 ' set cursor position for pilot rating
1880 PRINT UY$;Q$;UN$:RETURN ' print rating
1890 FOR N=1 TO 300:NEXT N:RETURN ' general purpose delay
1900 P=Y:Q=X:Y=12:X=27:GOSUB 1160:PRINT "+" ' restore screen
target center
1910 Y=P:X=Q:RETURN
1920 P=Y:Q=X:Y=12:X=19:GOSUB 1160:PRINT "Total Score =";S ' display
total score
1930 GOSUB 1890:GOSUB 1890:GOSUB 1160 ' delay
1940 PRINT "        +        ":Y=P:X=Q:RETURN ' erase score
display and return.
8000 DEFINT K   'double density (1.4) code.  See note for others.
8010 DSTK=&HEA80:RSTK=&HEA81:ISTK=&HEA9B:H$="0123456789ABCDEF"
8020 FOR A=&HEA80 TO &HEAC7
8030 READ D$:K=(INSTR(H$,LEFT$(D$,1))-1)*16+INSTR(H$,RIGHT$(D$,1))-1
8040 POKE A,K:NEXT:RETURN
8050 DATA 00,F3,D3,00,AF,32,08,EP,3A,00,29,47,D3,01,3E,01
8060 DATA 32,08,EP,FB,78,E6,1F,32,80,EA,C9,F3,D3,00,AF,32
8070 DATA 08,EF,32,01,29,32,00,29,3E,04,32,01,29,AF,32,03
8080 DATA 29,2F,32,02,29,3E,04,32,03,29,3E,FF,32,02,29,D3
8090 DATA 01,3E,01,32,08,EF,FB,C9
Note: Shaded characters indicate required changes for different
monitor roms. A = 1.4; D = 1.3; E = 1.2
E works with 1.4 or 1.3 roms; it may also work with 1.4x.
```



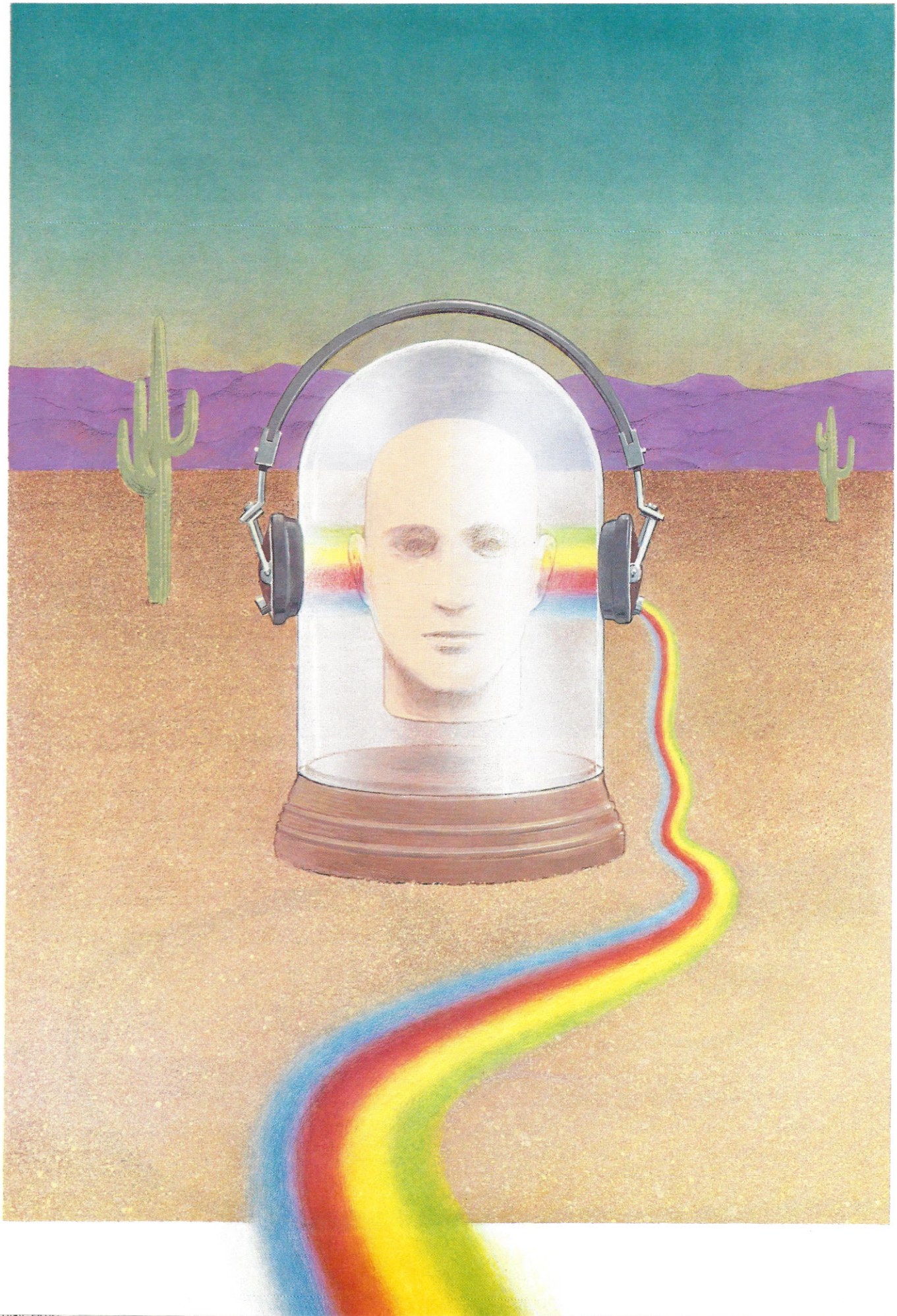
Spacewar screen representation.



Osborne's IEEE port.



Atari joystick cable and adaptor.



An Instrument of Liberation

A modem was Henry Kisor's liberator from a lifetime of lip-reading, relayed communications and unavoidable feelings of helplessness.

Henry Kisor

"HELLO, HENRY," said the green screen. "THIS IS BURKE CAMPBELL IN TORONTO."

Simple and everyday as they may seem to you, those words, appearing last November on my Osborne via the Chat function of The Source, are a landmark in my life. They meant that I could reach out and touch people in a way I had never anticipated since becoming totally deaf 39 years ago at the age of three. I am a newspaperman, and for the first time ever I was using the telephone to work at my profession, in this case interviewing the author of a book.

Let me backtrack a bit. Before the microcomputer revolution came along, one of deafness's worst aggravations was, for me, the inability to use the telephone to talk with *hearing* people. (The deaf can use teletype-writer-like "terminals" to talk with each other on the phone, but that is another technology and another story.) Thus in my job as book editor of the *Chicago Sun-Times,* I have had to ask hearing colleagues to make phone calls for me. That has worked well enough, but at a price: dependence on others and an accompanying fear of appearing helpless. When you're conscious of that, you're often reluctant to bother a busy co-worker with a request to call so-and-so, even if the information you need is important.

Also, I have had to conduct author interviews face to face. Lipreading is a vastly imperfect method of communication; frequently I have had difficulty understanding my subjects, and sometimes never knew what they had said until an editorial assistant transcribed the tape after the interview. If, as often happened, the author had made a provocative statement or hint, it would be too late to pursue the thread. Missed opportunities abounded.

All this began to change last fall when a press release from The Source arrived at my desk at the *Sun-Times.* A writer named Burke Campbell, it said, was going to knock out a full-length novel on an Apple III over a period of three days at a Canadian computer convention, and The Source would put the novel online to its 26,000 subscribers as soon as it was completed.

Having been an Osborne owner for only three months, I was just dimly aware of The Source and indeed of the videotex industry. But I had a brand-new Hayes Smartmodem and a couple of modem programs to go with it—thus had all the equipment necessary to access The Source. And the idea was intriguing. Could videotex provide a new way to publish books, therefore helping to save the ailing publishing industry? It was a question worth exploring.

A few days later, after making arrangements to sign on to The Source and "download" (transfer) the novel to

my Osborne, I rifled through the literature The Source had sent me, and happened upon a description of Chat. That is a feature by which two or more microcomputer users can "talk" with each other on their keyboards, using The Source as an electronic relay station. Lights flashed and bells rang. Why not interview Burke Campbell that way?

Later that month Campbell wrote *Blind Pharaoh* in 61½ hours at Toronto's ArtCulture Resource Centre, and within three hours The Source had plucked it from Campbell's Apple and put it online. The novel, a melodrama with science-fiction overtones, was rough-edged, as one would expect in a job of speedwriting. It was a stunt, of course, but one pulled off handsomely. As Samuel Johnson observed when he beheld a dancing dog, the wonder was not that it was done well but that it was done at all.

The next day Campbell and I had our chat. Keying in questions and answers on Chat was at this stage of the videotex art a slow and cumbersome process—two empty and wasted minutes sometimes passed before The Source's computers could process query and reply, and bad telephone connections further glitched up the conversation. Still, considering my previous choices, it was a liberation. I was no longer depending on hearing people to serve as my telephone voice and ears.

A couple of days later I also interviewed Mike Rawl, The Source's Public Relations chief, via Electronic Mail (slower but less frustrating than Chat, and I could follow up promising leads just as easily), and the result of the two talks was a long column for the *Sun-Times* on videotex and the possibilities of electronic publishing of books. (The novel, I wrote, proved that "videotex is a going concern as an alternative to the printed book. The technology is here already; all that is needed to make it marketable is a larger audience. And that will come; the only question is when.")

And now I am itching to interview more authors with my Osborne. As word processing microcomputers supplant typewriters, opportunities should increase exponentially. Right now most authors who write on computers tend to be commercial or genre authors, those who must produce a great deal of written work speedily and efficiently.

(Writers) will also be using modems for research as well as information storage and retrieval, and it is these authors I will be hooking up with before long.

My specialty as an interviewer, however, is the "serious" novelist or biographer, and they have been slow to follow the revolution. To oversimplify things, traditionally they have been more interested in arrangements of words rather than the processes by which words are arranged. They write more slowly and painstakingly than most, and they are so used to a turtle's pace they still can argue the relative merits of a manual Smith-Corona and a Venus Velvet No. 2 with the eraser on one end.

But things are changing as they discover, as have most of us who write on computers already, that a computer is a godsend for rewriting and revision. They also will be using modems for research as well as information storage and retrieval, and it is these authors I will be hooking up with before long.

I've had a number of chats on The Source with computer owners in San Diego and St. Thomas, and I've also discovered the serendipity of local bulletin board systems and remote CP/M operations. Videotex, I've discovered, isn't necessary for local calls or even short long-distance work. The Smartmodem has enabled me to talk on the Osborne directly with Apples and TRS-80s and IBM PCs. All that either end needs, apparently, is a modem program capable of switching to half duplex and preferably of issuing an automatic line feed (so that the cursor can begin a new line instead of hanging up on the last). I use both The Micro Link and OTERM, a public domain program by Michael M. Rubenstein and downloaded from the RCP/M operated by Chicago's First Osborne Group.

Truth to tell, I'd been a computer user since 1976, writing on an Atex mainframe word processing-typesetting terminal at the *Sun-Times* and before that the *Chicago Daily News*. Those six years have utterly spoiled me for typewriters, for reasons word-processor users all know. Early, on, I began going to the office on weekends so I could sneak in some freelance writing on the Atex.

Last spring, however, other freelancing colleagues started to clog up the Atex memory with unauthorized files, so the *Sun-Times'* front office discouraged all but legitimate work for the paper. And it occurred to me that a microcomputer at home would make it easier to work in the evenings or whenever the spirit moved.

That, in short, was what impelled me to purchase a microcomputer: the advantage of making an extra buck with less effort. It never occurred to me that the Osborne 1, intended to be used as a writer's workhorse, would also be a deaf person's instrument of liberation.

And that, in the long run, may be the greater benefit.

Henry Kisor is the book editor of the Chicago Sun-Times and a frequent contributor to the newsletter (PIP) of the Chicago Osborne User Group.

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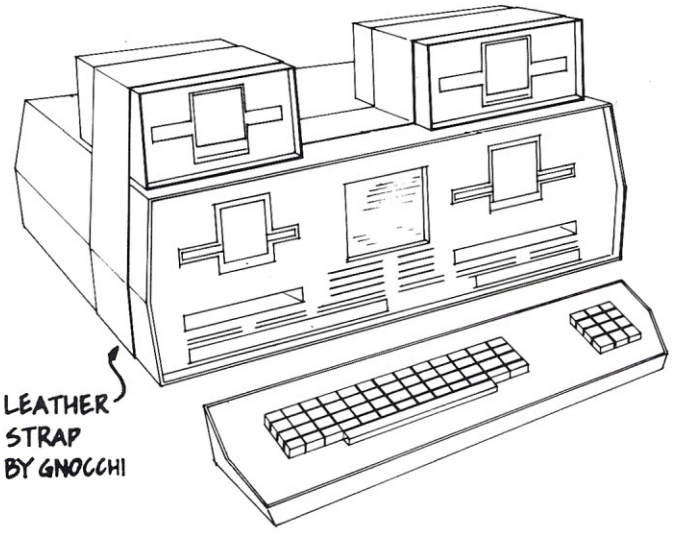

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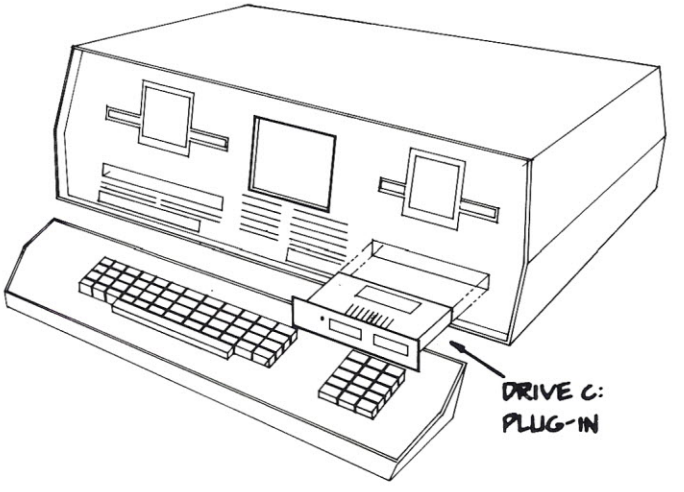

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A Copyright Catechism

Programmers and end users alike are finding themselves overwhelmed by the morass of legalese surrounding the creation and use of software. Martha Gore imposes order upon chaos in this valuable article.

Martha R. Gore

Just a few days after Bob and Millie Smith brought home their new computer, they broke the law.

They didn't hold up a bank, or shoplift or steal money from their employers. What they did was make copies of programs that were part of the Osborne purchase package and give them to friends.

That was breaking the law? According to the copyright and patent laws of the United States, the Smiths had infringed on the rights of the writers and distributors of those programs. In all likelihood, they had signed an "end user" agreement which stated very simply and firmly that the purchaser shall not copy, reproduce, remanufacture or duplicate all or any part of the product.

Possibly, the Smiths were not aware of their responsibilities as end users of computer programs. They most likely thought that words like copyright, patent, tradesecret and licensing agreement were simply legalese and had nothing to do with them.

In reality, this legal terminology is very important to anyone who ever thought about or copied, modified or developed a program for a computer. Each term refers to a way that rights in a computer program can be protected.

This article gives the reader some insight into problems that can develop, but it is not a substitute for legal advice. That must come from a copyright or patent attorney who is familiar with the unique situation of his client.

The Stimulus of Profit

The laws which govern the protection of software were passed to encourage the production and dissemination of information to the public. The idea behind them is that if writers are promised a monetary

return for the time and effort they put into their work, it will encourage them to continue to bring their products into the marketplace. The laws provide an economic link between the technician (the creator of a computer program) and the public. If it's that simple, why are the courts continually trying to settle arguments? Sometimes it's because program writers and users don't think about legal ramifications until they are in the middle of an after-the-fact controversy. Some problems could be avoided with a little knowledge and a lot of caution.

Why are the courts continually trying to settle arguments? Sometimes it's because program writers and users don't think... until they are in the middle of an after-the-fact controversy.

When the Congress of the United States passed the 1976 Copyright Law, it equated computer programs with literary work. In 1980 the law was amended to cover object codes and defined a computer program as a set of statements or instructions to be used directly or indirectly in a computer to bring about certain results.

Is It Eligible for Copyright?

To be eligible for copyright, a program must meet two criteria. As in the case of a literary work, it must be an "original" creation and must be "fixed" in a tangible medium of expression. That word "original" is easily the most difficult to interpret.

Simply put, if an author creates a work independently and does not copy it from another's work, it can be copyrighted. Some things which cannot be copyrighted are ideas, titles, names, procedures, processes, systems, methods of operation, concepts, principles and discoveries. Patent and trade secret laws cover some of these.

But when a person, in the process of writing a new program, uses words or symbols which may have been applied earlier, is he creating an original work?

There are arguments on both sides of that question. Some lawyers believe that even if a lot of old material has been combined in a new way, it should be eligible for copyright. Others call this a derivative work (which the law defines as something based on pre-existing work), which cannot be used without permission of the author.

Another opinion is that the "idea-expression identity" exception in the copyright law would apply because if there are limited ways of expressing an idea, the words or symbols can be used without copyright infringement. This is a logical extension of the part of the law which states that ideas may not be copyrighted.

When using computer languages, there are a limited number of ways that specific instructions can be given to accomplish a task. In interpreting the law, the courts have decided that if certain program language is necessary to achieve a given result, and if there is no other way available at that time to achieve that result, programmers are free to read copyrighted programs and use those ideas when preparing a new work.

Of course, this would be almost impossible under trade secrecy where the text of a program is designed not to be revealed and also under patent law where the process itself is protected.

When a program is put into a permanent or stable copy which will allow it to be perceived, reproduced or otherwise communicated for more than a transitory duration, (i.e., on hard disk or paper) it is considered "fixed" and eligible for copyright protection. The moment it is put into its fixed form, by law, it is copyrighted. A wise author would put a copyright notice, ©, the date and his name on the work immediately, even if it is not com-

pletely finished. The copyright notice declares the author's exclusive right to the publication, production and sale of the rights to a computer program for the life of the writer and for 50 years after his/her death.

The copyright does not have to be registered, but should an author want to bring a lawsuit against an infringer, it is a legal requirement. Although a copyright can be registered within five years of creation or publication, some important statutory damages may be lost by not registering a program within the first three months. The usual registration procedure can take some time, although the Copyright Office has been known to hurry that along in case of litigation.

Registering a Copyright

Registering a copyright is a simple procedure. Form TX is used for computer programs and for operating user manuals. This form and a kit with copyright law information is available, free of charge, by writing to the Copyright Office, Library of Congress, Washington, D.C. 20559. There are also two telephone hotlines, (202) 287-8700 for information and (202) 287-9100 to order registration forms.

The registration fee is $10 and must include the two best copies of the program listing. Some programmers include only the first and last ten pages of the object code. If a program is lengthy, only the first twenty pages and the last twenty pages must be deposited. It would be wise to check with the Copyright Office for the latest requirements. Registration should be keyed to the first time the program ran and worked. Keep in mind that after a program is registered with the Copyright Office, it is available to the public. But that does not mean that anyone can copy it in its entirety. That would be considered infringement of copyright for which remedies are available to the author through the courts. If infringement is proven, damages can include recovery of full costs, reasonable attorney's fees and additional damages which can run as high as $50,000 if the program was registered during the first three months. In addition, if it can be proven that the copying was done willfully and for commercial advantage or gain, it can be considered a criminal act. Punishment then could be a fine of not more than $10,000 or imprisonment for not more than one year or both.

Remember that infringement only takes place when an UNAUTHORIZED copy of a program is made. There is no law against making archival or backup copies of programs which have been purchased by an individual.

The Protection of Patenting

There are some circumstances when patent protection would be better than copyright because that gives the author the right to license and control the use of a patented device or process and prevents its use when independently developed by third parties.

While copyrights are granted for the life of the author plus 50 years, patents are designed to give the inventor rights for 17 years. Since a patent grants the owner monopoly rights, the acquisition can be expensive and time consuming because the legal hurdles a patentee must overcome are high. The applicant must prove many conditions to the satisfaction of the Patent and Trademark Office or failing that, to the Customs and Patent Appeals or even to the Supreme Court.

The copyright does not have to be registered, but should an author want to bring a lawsuit against an infringer, it is a legal requirement.

At the present time, patenting a program which is not part of a system is almost impossible. Unless

Congress makes changes in the law as it stands now, a pure computer program cannot be accepted for a patent, but an inventor using computer programs in a machine or process can apply if all other criteria are met. An inventor has one year in which to file an application after public disclosure, but in reality, it should be filed as quickly as possible. Unlike the nominal cost of copyright, patents can cost from $5,000 to $30,000 to draw up, obtain and defend.

The scale of piracy is unknown but claims have been made that there are about two and a half copies stolen for each one purchased.

Trade Secrets

Trade Secret protection is the best way to protect software in the opinion of some lawyers. But a lot of effort should go into keeping the information away from competitors. Keeping a trade secret confidential means taking precautions such as keeping the information under wraps at all times, having employees or co-workers sign agreements of confidentiality, etc. Evidence that no effort was made to treat the program as a trade secret could be damaging to a plaintiff in an infringement lawsuit.

Making a decision about whether a copyright, patent or trade secret registration is the best protection for a program is where a good copyright or patent attorney comes into the picture. The maze which the layman must travel takes the assistance of someone with enough expertise to understand the various laws and the way toward the greatest licensing value.

An attorney cannot be of much help unless the client is willing to be completely honest with him. The lawyer needs to know if elements were knowingly taken from a copyrighted work. The differences between the previous work and enough expertise in its use should be sufficient to demonstrate that the work is a new creation. In an infringement lawsuit, the first line of defense is the availability of documentation and familiarity with the product.

The author will need the services of an attorney when a buyer is found. One attorney should never be used by both parties to a contract. The contract can include the sale of all rights, giving a buyer full control of the product and its use. Or the author can license the software to a distributor and control the ownership. Or he can attempt to sell or lease the program individually.

Stop the Floating Program

Sometimes, program writers lose control of their product long before it reaches the marketplace. If an original work is not protected carefully, it can easily get away from the author. If it is allowed to be used without permission, it can float from one person to another, and the rights and monetary reward are dissipated. Or someone looking over a program writer's shoulder can be sharp enough to spot a winner. It is not difficult to acquire the documentation when a number of people are involved and proving who actually owns the copyright can result in a nasty lawsuit. Having an agreement with anyone involved with a project is cheap insurance against later hassles.

Everyone has heard stories about people who worked on university or company computers and developed their own programs, later setting up their own successful companies. For those with a little expertise in the field, it is not too difficult to figure out how a program is written just by looking at the output and modifying programs has become commonplace these days.

The scale of piracy is unknown but claims have been made that there are about two and a half

copies stolen for each one purchased. And it is actually stealing when programs are copied without authorization. It isn't much different than if the diskette on which the program resides was stolen bodily from a computer store.

Most software distributors are ethical and it is unlikely the theft of documentation will take place when a program is submitted. Nevertheless, asking a publisher to sign a non-disclosure agreement before the code is given over makes good sense. Of course, it is important to know something about the integrity of a software publisher or distributor even before a consultation takes place.

There is no question that a dedicated infringer knows that pursuit of an infringement case can be costly and that damages often don't even cover the expenses. That provides quite a temptation to circumvent the law.

End User as Pirate

Yet, according to some sources, it is the end user who is the greatest infringer. He is the person who purchases a program, but does not read the agreement which comes with it. That agreement, which is normally signed by the end user and returned to the distributor (since that is the way a program can be updated) states that, except for archival or back-up copies, "the user shall make no copies of any kind unless specifically authorized to do so by the selling company." The user acknowledges that everything in the program is not only copyrighted, but also constitutes a trade secret and must be safeguarded by the end user.

Whose Is It?

Another situation in copyright protection can crop up when employers and employees disagree as to who owns a program which was written on the institution's time or equipment. In a case where the employee works up a project on his employer's computer or time, or writes a program at home, but gives it a trial run at work, who owns the rights to the program?

If the employee has been hired as a programmer or computer consultant or user, there may be an obligation to share income from work created outside the workplace with employers. The attitude could be that employees are paid to be creative and the employer is entitled to any earnings which result from that creativity. It would appear that unless there is an agreement between employee and employer which spells out ownership of copyrights, even if the work is produced elsewhere, legal problems could arise.

Institutions are becoming very interested in any projects employees might work on at their expense. If a program is developed on a university or company computer by a programmer, who legally owns the finished product? An employee or student should understand exactly what rights or obligations are involved. If a contract has been signed or will be offered the individual should take time to read the fine print to make sure about any restrictions.

When a number of people work as a team on a project, again there should be a clear understanding of who owns what rights. If it is a work-for-hire situation and everyone has been employed to develop the program for an employer, it is the employer who owns the copyright.

On the other hand, when a team project is underway, everyone involved should have his interest defined in a formal agreement as to the relative right of each since this is a work of joint authorship. Anyone working on the program can register the copyright, although the law says that all authors shall share in the proceeds of any sale, licensing, etc.

The final determination as to software ownership and rights will eventually emerge through court decisions. It is up to each individual, whether writer or end user, to be aware of his legal limitations and obligations. To avoid problems, be armed with as much knowledge as possible and when in doubt consult an attorney.

The Software Legal Handbook, by Paul S. Hoffman (Carnegie Press, Madison, N.J.), can be helpful in understanding more about copyright and trade secret procedures.

Martha Gore has published articles on software protection laws and copyright in publications like Popular Computing, Creative Computing and Softtalk for the IBM Computer. She also teaches college courses for writers on copyright law, tax information and word processing.

The comments and opinions expressed in this article are the authors and are given for educational purposes only. They are not meant to be legal advice and specific legal questions should be referred to an attorney.

Setting up a WordStar COMFYL for keyboard entry

H. Lewis

Those who have emerged, advanced or plowed their way from the lowly state of Neophyte to that of Novice (the distinction is mine) and become reasonably facile in using the many facets of WordStar may now have reached a point where they are tired of repeatedly entering letter headings and salutations, proper tabbing and indentations. If you want the computer to do more of the work, read on.

Why bother setting up a COMFYL? Because it is a time saver. Also, it reduces the possibility of making errors in formatting and addressing. Finally, it is more cost effective from a business point of view when answering inquiries.

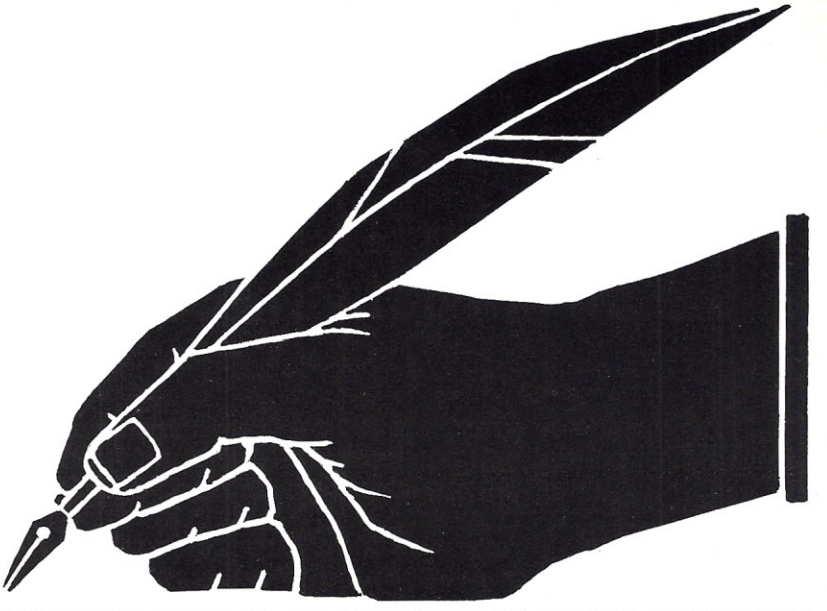
For my own needs I have installed this file on both sides of a disk that has been labeled CORRESPONDENCE. Even though it takes 2KB of memory, it is worth it, since a home-based business often necessitates writing individual letters as opposed to sending out form letters.

All the information concerning this command file is contained (more or less) in the MailMerge section of WordStar in either of the OCC handbooks. (If using the looseleaf binder, page 110, "Establishing a Constant Data Line," third paragraph, line six, should read &OURCOMPANY& instead of &ANYCOMPANY&.)

Setting up the command file will require the use of at least three dot commands: SET VARIABLE dot command .SV; ASKED FOR VARIABLE dot command .AV; and FILE INSERT command .FI. This file can also include print commands such as ^B, as well as heading and margin commands.

For my purposes I wanted the COMFYL to accomplish the following tasks:

- Print name and address
- Print date
- Ask for a business salutation, to include company, name, address, city/state and zip code



- Ask for the greeting
- Ask for and insert text from a document file

The following COMFYL accomplished those objectives.

```
.OP
.SV OURCOMPANY, EY-EZ-OR
.SV OURADDR, 4505 KITTIWAKE WAY
.SV OURADDR2, OCEANSIDE   CA  92056
.SV DATE, April 8, 1983
.AV "                 COMPANY:",COMPANY,,
.AV "                    NAME:",NAME,,
.AV "                  STREET:",STREET
.AV "          CITY and STATE:",CITYSTATE
.AV "                 ZIPCODE:",ZIPCODE
.AV "                   NAME1:",NAME1
.AV " NAME OF FILE TO PRINT:",DROPFILE

                       &OURCOMPANY&
                       &OURADDR&
                       &OURADDR2&

&DATE&


&COMPANY/O&
&NAME/O&
&STREET&
&CITYSTATE&  &ZIPCODE/O&


Dear &NAME1&:

.FI &DROPFILE&

Sincerely Yours,


H.H.L.

.PA
```

The double commas following the company and name allow for omission of those fields without leaving a space in the salutation as long as the salutation fields contain the /o which means omit. Both must be present at the places designated for this feature to work. It took some experimenting to find where to put the commas because the manual doesn't spell it out for this application. However, the user guide states that this can be accomplished when using the READ VARIABLE dot command .RV.

Also, any print commands which follow the last dot command must be separated from the heading by at least two (2) lines. Otherwise the title ends up to the right of the date when printed out.

Once the COMFYL is set up, open a separate DOCUMENT file for the body of the letter, and save it to diskette. Invoke the MERGE-PRINT option, with the file name COMFYL, and enter the information requested from the keyboard. Start the printer.

Notice that a portion of the greeting "Dear" and the close have also been incorporated into the COMFYL. By the same token, a business heading could also be incorporated.

When using this command file, a file copy of the letter will not be saved unless the RETURN key is used and YES is answered to DISK FILE OUTPUT (Y/N) with a file name supplied. If only a print-out is needed from the printer, simply press ESC.

One last word: Position the date, close, heading, salutation, greeting and file insert &DROPFILE& at exactly the desired position. That is where they will be printed.

It may be necessary to experiment with a few trial sheets of paper to get the best arrangement.

Editor's note: Use "Number of copies" merge-print command to prevent "one-at-a-time" printing of letters. For example, if you have ten different addresses, specify "10" as the number of copies to merge-print. ■

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TECHNICAL TIPS

Cables, tables, labels

Automate Your WordStar Index

J. Bruce Francis

John Wiseman's tip about using WordStar to keep an index of file names (Apr/May 1983) was most useful. But the necessity of bringing up the index file, blocking it, then writing the block to disk again before beginning to use the new file was bothersome.

To make the process more convenient, connect it to two function keys as follows:

1. On Drive A, create an index file. (I named mine X to save keystrokes.)
2. Set up function key #9 with this code:
   ^KRA:X^QC<cr>
   Hit ESC ESC to store it. Function ^9 reads the index file (X) from A drive, moves the cursor to the end of the file, and adds a carriage return for positioning to type information about the new file.
3. Set up function key #0 with this code:
   ^QR^KB^QC^KK^KW^R
   Hit ESC ESC to store it. Function ^0 moves the cursor to the beginning of the index file block at the head of the new file (^QR), blocks the beginning (^KB), moves the cursor to the end of the new information (^QC), blocks the end (^KK), calls for a block write (^KW) and inserts the name of the index file as the destination (^R). At this point the old index file will ask to be overwritten. Type Y and the new information will be saved as last item in the index file. When the cursor returns, type ^KY to remove the block and the cursor will be positioned at the head of the new file to begin.

Caution: Be careful about including within function ^0 the ability to overwrite (Y) and ^KY to remove the block. (I tried it and found while preparing an entirely different file that if I touched ^0 by mistake, I wrote the entire file to A:X and wiped out the index.)

Once the function keys are set up and the index file (X) is prepared and stored on Drive A, here's how to proceed:

Boot WordStar
Edit a (D)ocument or (N)on-document file
With the cursor at the beginning of the file, type ^9
Type in the new file information, and type ^0
At the prompt, type Y to overwrite
When the cursor returns, begin new file

With the convenience of this modification to Wiseman's excellent tip, keeping track of files will be a breeze.

Square Roots with dBaseII

Doug Hurst

A lot of programs out there work in conjunction with dBase II to perform various functions not resident in dBase as supplied. Those unable or unwilling to put out for such programs may use this article as the start

of at least a partial solution. The following program is for accomplishing the square root function in dBase II command language. It is submitted as a sub-module, although it could be used as part of a main program.

The value to be rooted is stored as X in one of the 64 available memory locations prior to entering the sub-module. After the sub-module has acted on it, the output will be stored as Y (although it could be stored back into X to maintain program integrity after the calculations are complete).

```
* SQSUB.CMD
* SQUARE ROOT SUB-ROUTINE FOR dBASE II
STORE X*.5 TO Y
STORE 0 TO Z
STORE T TO TRUE
DO WHILE TRUE=T
* ENTER THE NEXT TWO LINES ONLY IF YOU
* WANT TO SEE THE SQUARE ROOT OPERATION
* STEP BY STEP. IF USED, OMIT THE ( )'s.
(DISPLAY MEMORY)
(WAIT)
STORE (X/Y-Y)*.5 TO W
* W=0 SHOULD WORK BUT -0.0000001 USED
IF W>=-0.0000001 .OR. W=Z
   STORE F TO TRUE
   ELSE
     STORE Y+W TO Y
     STORE W TO Z
ENDIF
ENDDO
RETURN
```

To see the program actually work, use it in conjunction with the following sample program. Simply enter both programs on a disk in drive B, using either WordStar (N option) or dBase II's MODIFY COMMAND mode. With dBase in drive A, type DO B:SQROOT from the dBase '.' prompt or DBASE B:SQROOT from the CP/M ' A> ' prompt.

```
* SQROOT.CMD
* SAMPLE (ONLY) PROGRAM TO SHOW HOW
* SQSUB.CMD OPERATES.
SET TALK OFF
ERASE
?"TYPE IN THE NUMBER YOU WANT TO FIND
?"THE SQUARE ROOT OF. "
INPUT TO X
DO B:SQSUB
ENDDO
* IF X MUST MAINTAIN ITS VARIABLE
* ASSIGNMENT AFTER ROOTING, ENTER THE
* FOLLOWING LINE. [OMIT ( )'s]
(STORE Y TO X)
ERASE
SET FORMAT TO SCREEN
@ 1,1 SAY "THE SQUARE ROOT OF"
@ 1,20 GET X PICTURE '999999.9999'
@ 1,32 SAY ' IS '
@ 1,36 GET Y PICTURE '9999.9999'
@ 3,1 SAY 'PRESS ANY KEY TO DO'
@ 4,4 SAY 'ANOTHER ROOT'
WAIT
DO B:SQROOT
RETURN
```

There is no reference for this except for those who want to lower themselves to reading a TRS-80 Level I Basic manual. Since Level I Basic has no built-in SQR function (among others), they list several subroutines which can be used. This is a conversion from one of those subroutines.

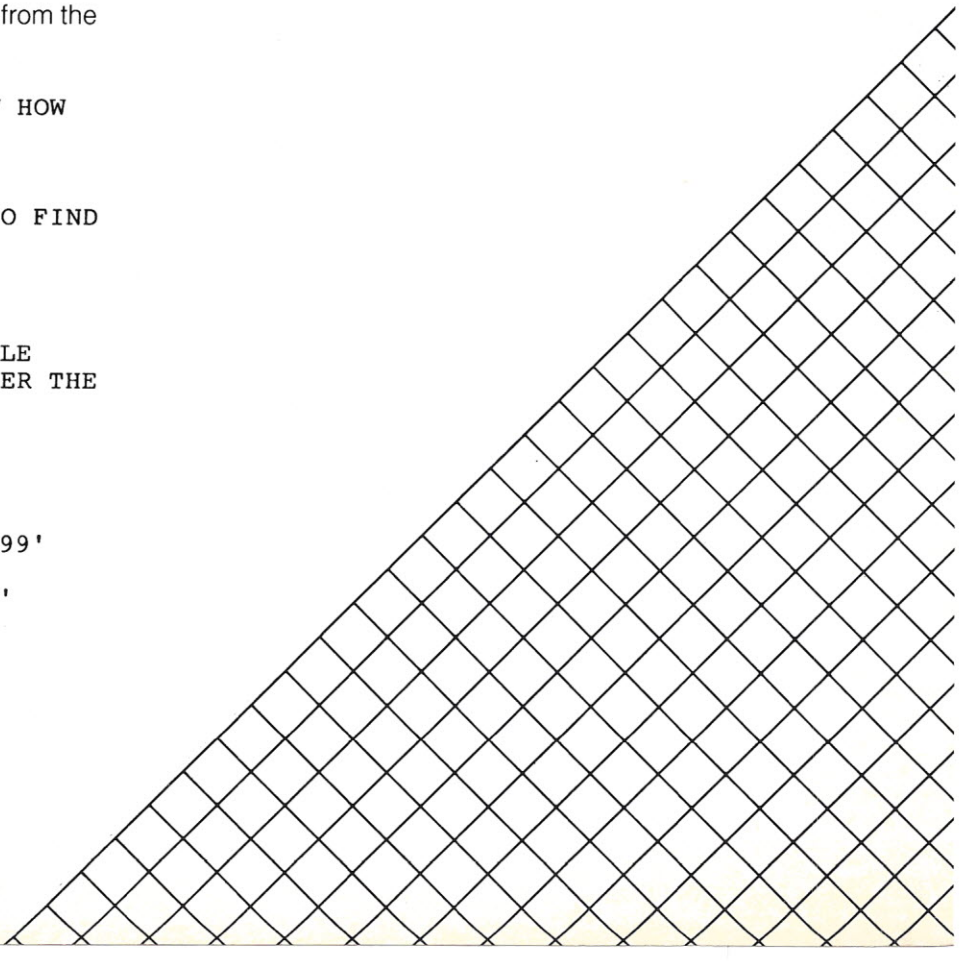
Note: I wholeheartedly concur with the user's manual recommendation of renaming the file DBASE.COM to DO.COM. This allows direct execution of command files with the DO X:filename from either CP/M or dBase.

Executive IEEE to Centronics Cable

Brad Baldwin

A cable can no doubt be designed several ways. For the Executive, I used the common 26-wire flat ribbon cable and placed empty wires between data lines with two signal grounds between strobe, busy, and select lines.

This design offers more than enough shielding and separation to prevent impedance and inductance build-up for printer cables under 10 feet. (Empty wires could be soldered together and attached to available signal ground points if the application calls for using a longer cable.) Because soldered connections are used at both ends of the cable, wires are easily manipulated to achieve proper shielding.



I chose the flat ribbon cable over round cable only for its physical flexibility; there is no difference in quality. The pin-out for a round cable with 11 paired returns to ground would be different only in where the grounds were connected.

The IEEE connector should be the kind where the cable comes straight out rather than bending 90 degrees.

```
Cable: 26 pin flat ribbon cable
IEEE connector: soldered, straight out exit

Executive IEEE      Centronics
   24 pin             36 pin
    1 ---------------  2   Data 1
      ---------------
    2 ---------------  3   Data 2
      ---------------
    3 ---------------  4   Data 3
      ---------------
    4 ---------------  5   Data 4
      ---------------
   13 ---------------  6   Data 5
      ---------------
   14 ---------------  7   Data 6
      ---------------
   15 ---------------  8   Data 7
      ---------------
   16 ---------------  9   Data 8
   18 ---------------  19    Signal ground
    6 ---------------  1   Strobe (Data valid)
   19 ---------------  20    Signal ground
   20 ---------------  21    Signal ground
    8 ---------------  11  Busy (No data accepted)
   21 ---------------  22    Signal ground
   22 ---------------  23    Signal ground
   10 ---------------  13  Select (Service request)
   23 ---------------  24    Signal ground
      ---------------
      ---------------
```

HEXDHEX

John E. Cunio

The accompanying short program can be a useful utility in simplifying hexadecimal-to-decimal and decimal-to-hexadecimal number conversions. It makes use of MBASIC's built-in HEX$(x) function for converting hex-to-dec. Although it isn't documented in either the Osborne *User's Guide* or *Microsoft's MBASIC Guide*, the command PRINT &Hxxxx will return the decimal equivalent of the argument xxxx. For numbers higher than &H7FFF (32737 dec) a negative value is returned that must be algebraically added to 65536 to obtain the actual decimal value.

The program should be saved in ASCII format using the [,A] option. This allows it to be loaded during programming using the MERGE command. The STOP in line 10030 allows debugging and trial RUNs of the lower numbered program without crashing into HEXDHEX.

```
10000 '  ******* HEXDHEX *******
10010 '    By John E. Cunio
10020 '
10030 STOP        'Stops lower programs during
10040             'trial runs
10050 PRINT CHR$(26)
10060 PRINT
10070 PRINT "ENTER 'H' FOR HEX/DEC OR 'D' FOR"
10080 PRINT "DEC/HEX."
10090 C$ = INPUT$(1)
10100 IF C$ = "H" GOTO 10140
10110 IF C$ = "D" GOTO 10190
10120 IF C$ = "" GOTO  10120 ELSE 10070
10130 PRINT CHR$(26)
10140 PRINT:PRINT
10150 INPUT "ENTER HEX NUMBER (&H----)";X
10160 IF SGN (X)=-1 THEN X=65536!(X) ELSE 10170
10170 PRINT "                              = ";X "DEC."
10180 GOTO 10060
10190 PRINT:PRINT
10200 INPUT "ENTER DECIMAL NUMBER ( <65536 )";X
10210 Y$ = HEX$(X)
10220 PRINT "                                    =&H";Y$
10230 GOTO 10060
```

Mailing Labels with dBase II

Julia Ann Kosnik

Here is a simple example of how to print mailing labels using dBase II. The first step is to create a database. This procedure is explained on pages 14–17 of the dBase II manual. For this example, create a structure on the B drive exactly like the one below. Call the database LIST. Then enter a few names and addresses.

```
FIRST,C,10
LAST,C,15
STREET,C,15
CITY,C,15
STATE,C,2
ZIP,C,5
```

Once the structure is created and names and addresses entered, type in QUIT at the prompt.

The next step is to create a command file. This procedure entails the following steps:

1. Put WordStar in drive A and leave diskette with database file in drive B.
2. Load WordStar and log onto B drive.
3. Type N to enter non-document mode of WordStar.
4. Edit the file LABEL.CMD. Note the .CMD extension. Remember that dBase will not recognize a command file without a .CMD extension.
5. Type in the following:

```
SET TALK OFF
USE B:LIST
GOTO TOP
SET PRINT ON
DO WHILE .NOT. EOF
? TRIM(FIRST),LAST
? STREET
? TRIM(CITY),",",STATE,ZIP
?
?
?
SKIP
ENDDO
SET PRINT OFF
```

6. Please note that the question marks are print statements, very similar to MBASIC. The question marks with no information following tell the computer to leave blank spaces. Adjust the number of spaces in accordance with label size by adding or deleting question marks as needed.
7. Save this program with ^KD or ^KX.
8. Place dBase II in drive A, leaving diskette with LIST.DBF and LABEL.CMD in drive B. Hit return.
9. At the prompt, type in the following and hit return:
   .DO B:LABEL

Congratulations! You did it.

Please note: the most frequent mistake with this program is a failure to match the field names in the database with the field names in the command file. Do not let this happen to you.

These books should contribute to further dBase II adventures:

Everyman's Database Primer, Robert A. Byers (Ashton-Tate).

dBase II User's Guide, Adam Green. Software Bank, 661 Massachusetts Avenue, Arlington, MA 02174.

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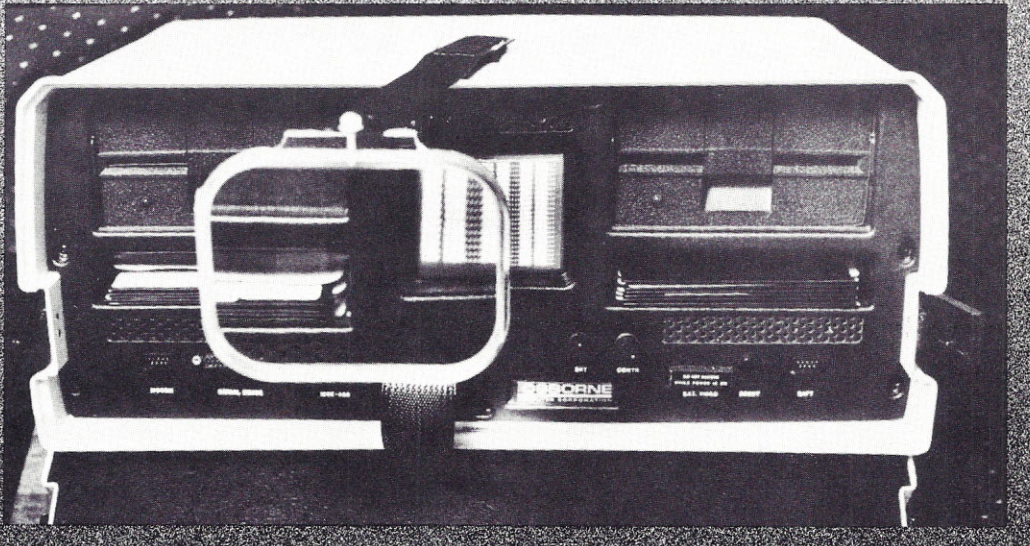

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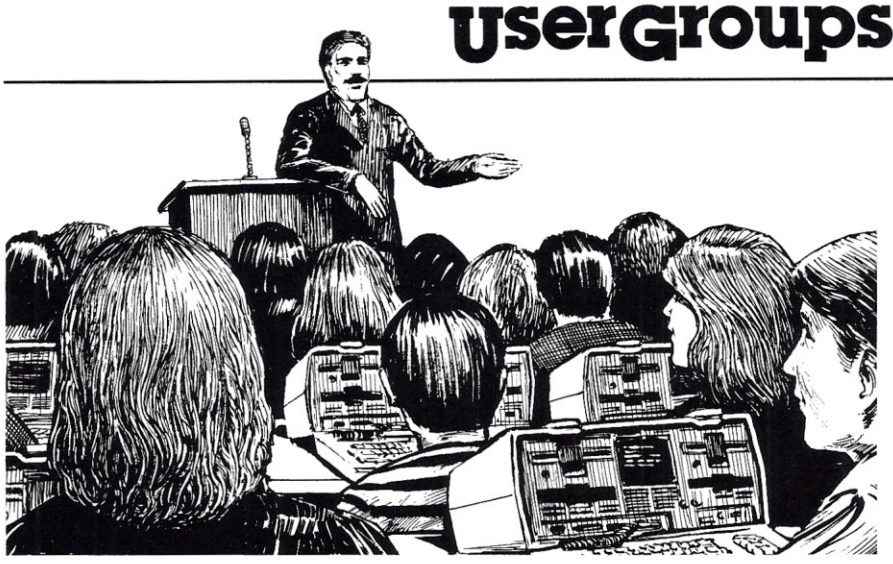

Using SUBMIT is Easy

Verne R. Walrafen

Having a poor memory and a very short attention span I found the very simple process of disk initialization terribly error prone.

My solution was to create a file "INIT.SUB" on my utility disk as follows:

```
a.) STAT B:*.*
b.) COPY
c.) SYSGEN
d.) SAVE 0 B:----#$3
e.) SAVE 0 B:---VERNE.W
f.)  PIP B:=A:/.COM[V]
g.) PIP B:AUTOST.COM=
    A:AUTO$4.COM[V]
h.) PIP B:=A:PIP.COM[V]
i.)  STAT B:*.* $1
j.)  STAT B:/.COM $2
k.) / B:
```

(INIT.SUB was created using WordStar and does not include the small reference letters, such as a, that I am using in this memorandum for reference purposes.)

I used SETUP to give a function key the first part of my command string:

```
SUBMIT INIT $R/O $SYS --- ---- <CR>
  (1)   (1)  (1)   (1)  (2) (3)  (4)
```

(1) Command string from function key.
(2) Disk serial number argument, e.g., 001.
(3) Autostart routine argument, e.g., DATA or GAME.
(4) Return to initiate procedure.

Warning: Once SUBMIT takes control it insists on going all the way. Even the RESET button is of no particular salvation as SUBMIT simply waits around till you reboot its disk and off it goes again. I just remove the disk in drive B and continue to respond to SUBMIT's messages with <RETURN> till it runs its course. There are certain points where <ESC> will terminate SUBMIT and return you to CP/M but I'm never certain where or when to "hit it" so I stick with <RETURN>.

INIT.SUB investigated

I am certain that you will not want to copy my initialization procedure exactly but if I tell you what I did then you can change it to suit yourself:

a) **STAT B:*.*** will show you what is already on the disk that you are getting ready to trash. I have been known to grab the wrong disk upon occasion even if you haven't.

b) **COPY** allows you the option of formatting any new disk and a simple <RETURN> permits you to skip this option.

c) **SYSGEN** places CP/M on the disk being initialized. I do not have any disks that will not "cold boot."

d) **SAVE 0 B:----#$3** places a serial number on my disk in the file directory which I also place on a label on the outside.

e) **SAVE 0 B:---VERNE.W** places my name similarly. Neither of these actions use any disk space.

f) **PIP B:=A:/.COM[V]** brings a super directory routine aboard.

g) **PIP B:AUTOST.COM=A:AUTO$4.COM[V]** brings my choice of autostart routines aboard If I later decide to load a routine that has its own autostart routine I can "ERA" this routine easily.

h) **PIP B:=A:PIP.COM[V]** brings PIP.COM aboard which I use all the time to shuffle data files around between disks. Should I later decide I need the disk space for data files "ERA" is still available.

i) **STAT B:*.* $1** write protects all files on the new disk. We are forced to use an argument here, $1, because SUBMIT gets excited and becomes totally unreasonable when it encounters the dollar sign on $R/O.

j) **STAT B:/.COM $2** "hides" my super directory (for no particularly good reason) from itself.

k) **/ B:** shows me what I did. I always feel more comfortable when I have visual confirmation of the success of a process.

Editor's Note: See "Technical Tips" in the Apr/May 1983 Portable Companion *for further information on SUBMIT patches.*

Reprinted from TOG, *the newsletter of the Topeka Osborne Group.*

A Cursor Routine For BASIC

Billy Gomban

When working with random files, record lengths are fixed, therefore the amount of character input will be limited to the length of the string used. Data will be lost if the user

enters more characters than allowed and if you input the data into a record and then retrieve it, you will notice the loss of data. Here's a routine that will allow the user to know exactly how much string space is available. You enter one character for each asterisk displayed on the screen.

LINE 10: Z= the actual space allowed for the name. Don't forget the two spaces.
LINE 20: Takes you to the cursor routine.
LINE 30: Is the string label used, a maximum of 30 characters allowed.
LINES 40-60: is the same as lines 10-30
LINES 70-80: Prints out the inputted data.
LINES 1000-1100: Is the actual routine.

SAMPLE RUN:

What is your name? Mr. John G. Doe **********

What is your telephone number? ********

THE PROGRAM

```
10 Z=30:PRINT"What is your name  ";
20 GOSUB 1000
30 INPUT N$
40 Z=8:PRINT"What is your telepone number  ";
50 GOSUB 1000
60 INPUT T$
65 PRINT
70 PRINT"NAME  ";N$
80 PRINT"TELE.";T$
90 PRINT: GOTO 10
91 REM
95 '    ' = SAME AS REM

1000'ACTUAL ROUTINE
1030 FOR I=1 TO Z
1035 IF S%= O THEN PRINT "*";
1040 IF S% THEN PRINT CHR$(8);
1060 NEXT I
1070 IF S% THEN 1090
1080 S%=1:Z=Z+2:GOTO 1030
1090 S%=0
1100 RETURN
```


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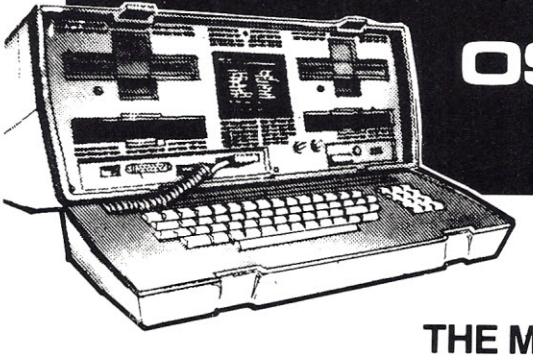
UNDERSTANDING THE OSBORNE 1 VOLUME 1



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The routine will display a string of asterisks equal to the value of 'Z'. 'Z' equates to the maximum number of characters allowed for the particular input statement. When inputting, data will not be lost as long as you do not type beyond the last asterisk.

Reprinted from Tradewinds, *the newsletter of the Osborne Hawaii Users.*

CPMPOWER

Pavel Breder

CPMPOWER.COM version 2.41 is the predecessor of the program called POWER! presently being sold at retail, POWER! is version 3.33 and includes several new commands. CPMPOWER, while lacking these commands, is public domain and free.

Basically, CPMPOWER is a front end for CP/M. This means that it simplifies the use of the operating system, in that you never need remember the syntax for the many CP/M commands such as PIP, STAT, REN, etc.

Load CPMPOWER and type "?" You will get a listing of available commands. From this level you may do housekeeping duties on files and run programs. The specific commands are detailed below.

COPY

This command does just what it says. It copies individual files just like PIP. Unlike PIP, it is limited to copying between disks and USER numbers. First log onto the disk you wish to copy from (A: or B:). Then simply type COPY.

A listing of files on that diskette will appear with numbers preceding them. Type the number of the file(s) you wish to have copied (place a space between numbers) and the program will prompt you through the copy session. See LOG on how to change the prompt sequence as well as how to have the copies verified.

CRT

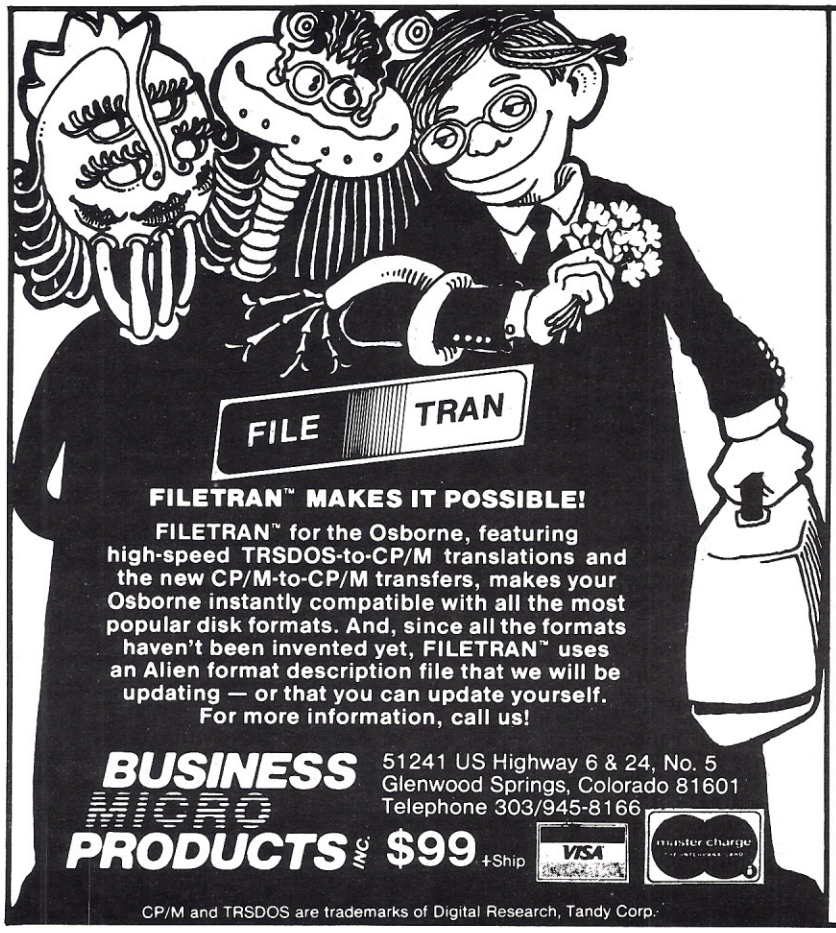
I have not been able to determine the use of this command.

DISK

This command gives the statistics of the disk, showing details like sector organization and the like. CPMPOWER was designed for all CP/M computers, so this information would be useful if we did not already have it in our manuals.

EXIT

Just what it says: Back to CP/M.



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IBM PC (MSDOS)
MEMORY MERCHANT (MOD III CP/M)
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If there is a CP/M soft sectored format that you need but is not listed, call and we will arrange to add it free of charge.

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Fully-Integrated	**YES**	YES	YES	YES	YES
Ready-to-Run	**YES**	YES	YES	YES	YES
Audio Cassette Tape Start-up & Training Aid	**YES**	NO	NO	NO	NO
System "Road Map" Guide	**YES**	NO	NO	NO	NO
Free Users' Newsletter	**YES**	NO	NO	NO	NO
Source Code Included At No Extra Charge	**YES**	NO	YES	NO	NO
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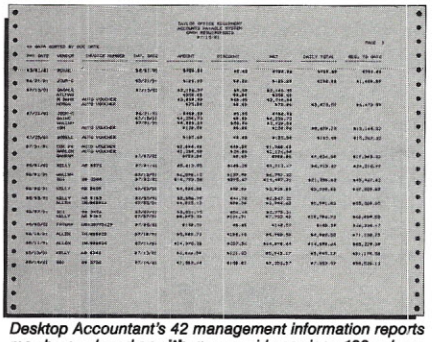

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9. Income Statement with prior year comparison
10. Departmental Income Statement(s)
11. Departmental Income Statement(s) with prior year comparison
12. Detail report for individual accounts
13. Trial Balance Statement

Accounts Receivable

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3. Statements (with or without pre-printed forms)
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6. Itemized Monthly Transactions
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8. Summary Cust. Account Report

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6. Cash Requirements Report
7. Transaction Register
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10. Detailed Vendor Activity Report
11. Summary Vendor Account Report

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8. Detailed Employee File Listing
9. 941 Worksheet
10. W-2 Forms Printing

SYSTEM CAPACITIES

Module	SD	DD	5Mb	10Mb	15Mb
General Ledger					
Accounts	100	200	400	400	400
Transactions	500	1,000	6,000	12,000	18,000
Accounts Receivable					
Customers	200	400	400	400	400
Transactions	400	800	6,000	12,000	18,000
Accounts Payable					
Vendors	200	400	400	400	400
Transactions	400	800	6,000	12,000	18,000
Payroll					
Employees	200	400	400	400	400

SYSTEM REQUIREMENTS

Requires either CP/M® or MS-DOS (PC-DOS); MBASIC for CP/M®, BASICA for MS-DOS: 56K to 64K RAM; 2 Disk Drives or Hard Disk; at least 200K of Mass Storage (we recommend more); 132 column printer (an Epson MX-80 or similar printer with compressed mode is acceptable); call for exact requirements on specific systems.

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TYPE
TYPEA
TYPEH
TYPEX

All four TYPES work in a way that is similar to the standard TYPE. The difference is in the format. Again simply type the command and CPMPOWER feeds you a list of numbers. Type one or all of the numbers, separated by spaces, and you will be prompted through the display of the files.

CHECK

Checksum analysis. This command will run an algorithm over your files and return a number. If the number matches a control number, the files are the same. Useful for determining if your *.BAK files are actually backups or merely similar files of the same name, CHECK will let you know. Then the problem is figuring out which is the most recent.

RUN

Run a program. CPMPOWER is a front end, meaning that you need not exit to access any other programs. Type RUN, get the list of numbers and away you go.

SETDIR

Similar to the STAT command, but easier. Will set your SYS files to type that will be displayed by DIR.

SETWRITE

Restores read-only files to read and write files.

LOG

Very useful command. Type LOG sends you to a separate menu. Five toggles are available there.

1. You may select what CPMPOWER should do when encountering duplicate files (you may overlay, backup, ask for disposition, or skip.)
2. Also, you may set the number of columns in the DIR listing.
3. The third function selects whether the program will ask for verification of selections within the main program or go on with the instruction as given.
4. This toggle selects whether the program reads after writing a file (as when copying) to check for errors.
5. This toggle will allow system files to be shown on listings.

Finally, the bottom of the LOG menu indicates the present USER number and the present USER DESTINATION number. Both of these designations may be changed from the main menu.

USER

Change user number. Simply type USER n where "n" is an allowed decimal value user number.

INFO

At one time, this program apparently came with an information file. I got this program from the Suncoast Osborne User's Group out of Tampa, Florida. I checked back, but they haven't got the info file either. Presently, this documentation file will be displayed by typing INFO. (If you typed INFO before reading the documentation then disregard these past two sentences.)

TEST

Very useful command. Log to a disk with A: or B: and then type TEST. It will run over the disk, locate physically bad sectors and lock them out from the directory. These sectors are also set read-only to prevent someone from accidentally erasing them and then wrecking data and then trying to write across them. Very similar to FINDBAD.COM in the library, except it's part of an integrated package.

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ERA

Same as the CP/M command. It erases files, but in the same format of much of CPMPOWER. Type ERA and get the number of the file(s) you wish erased. Type those number(s) and they are no more.

JMP

Useful for assemblers. Lets you JMP to any memory location. EXEC, below, is similar. I don't understand either. When any of you hackers figure these out, I would be pleased to know how they are used.

SETSYS

Set a file to SYS status. Can't be read by the DIR command.

DIR

Standard DIR command. No file statistics. However, see LOG on how to change the number of display columns.

DEST

Allows transfer of files from one USER location to another. The format is the same as USER, above.

STAT

Very boring STAT command. Just whether R/W or R/O, SYS or DIR.

RECLAIM

Another very helpful command, and one with no counterpart in the OSBUG library that I know of. This command recovers erased files. Previously this could be done only by getting onto the disk with DU and changing the end of file byte in the directory. RECLAIM does this for you and prompts you through all abandoned listings on the directory tracks. So long as you do not write anything to the disk after erasing your file, this utility will recover the file. Standard format: log to the disk (A: or B:), then type RECLAIM. You will be prompted. Just answer yes or no.

SIZE

Shows total of tracks and sectors used by a file.

REN

Same as CP/M command of same name. Only difference is the convenience of dealing with numbered files instead of having to worry about typing errors.

EXEC

Allows execution of a resident program from any location, I think. When anybody knows for sure, let me know.

SETREAD

Set your files to read only with this command. SETWRITE, above, undoes it.

Reprinted from OSBUG, the newsletter of the Osborne Business User's Group, Portland, Oregon.

dBase II Anyone???

John Gaudio

Lots of you have gotten something called dBase II with your Osborne, and the big questions I hear are "What is it?...What does it do?...[and] "How do I make it work?" Well, here goes.

Just as SuperCalc lets you work with numbers, and WordStar allows you to manipulate words, dBase II is a program that lets you keep track of information (data). This data might be a list of names, addresses, and phone numbers, information on your stamp collection, a full-blown accounting system, or whatever.

dBase II is like a sophisticated cardfile system with all the sorting and cross-referencing done for you. Consider the stamp collection

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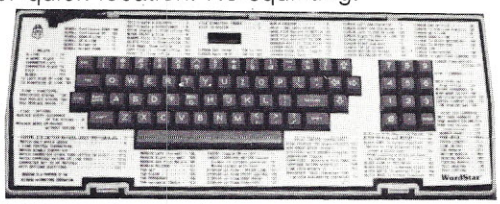

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for example. In a manual system you would have an index card for each stamp in the collection. On that card you'd put the name of the stamp, the volume/page on which it's found, the date it was issued, the country that issued it, the date you acquired it, the price you paid for it, the date it was last appraised, and the appraised value. That's eight pieces of information about a particular stamp on a particular file card.

This is easy to understand. The hard part is handling the actual cards. If you want a list of your stamps sorted in alphabetical order by name, you must first manually sort the cards, and then type up the list. If you want lists by country you again take each card, one at a time, and put it into a pile of cards for that country. If you want to know the value of volume 12 of your collection, you go through the entire set of cards, separate those that refer to volume 12, and then add up the current appraisals found on those separated cards.

If your collection consists of 10 or 12 stamps, then this is all pretty easy to do. If you have 50 to 100 stamps it's inconvenient, but workable. If you've got over a thousand stamps then I hope you have lots and lots of time, a small staff, or something like dBase II.

dBase II handles information stored on a diskette, just as you or your staff would handle the same information on index cards. In dBase we call the cards records. For our example each stamp would be described by one record, and that record would hold the same information we put on the index card. Each piece of information, like the stamp's name for example, is stored as one entry on that record, and that entry is called a field. Thus to put our example on dBase II we'd use one record (like a file card) with 8 fields (entries) for each stamp in the collection. The fields would be:

1: NAME	Stamp name
2: LOCATION	Volume/page where stamp is kept
3: ISSUED	Issue date
4: COUNTRY	Country that issued stamp
5: ACQUIRED	Date acquired
6: COST	Acquisition cost
7: APPRAISED	Date of last appraisal
8: VALUE	Value at last appraisal

Just as every card has a space for each of these entries, every record has a field for each entry. dBase II allows up to 32 fields in a record, and over 60,000 records in a file. (Available disk space does limit the number of records in the database, but with hard disks like the Trantor available on the O-1 you can store a lot of records.)

The dBase II program helps you to set up the fields for each record, lets you enter the information into those fields, lets you sort the records on any field, and much, much more. The operations described in the manual example are all easily accomplished with dBase, once you've learned to use several of the standard commands. With a little more work you'll learn how several commands can be stored in a file, and executed when the user selects the appropriate option from a menu. In this case you're actually writing programs that can be so easy to use that a temporary secretary with no computer experience can be adding and modifying information, printing reports, and more, with less than an hour of instruction, often with only a few minutes of help to get started.

Take the time to learn it. You'll get that time back many, many times over.

Reprinted from FOGHORN, *the newsletter of the First Osborne Group.*

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UserGroups

Osborne Guide

Keith N. Egger

Osborne User's Guide: Applications and Programming, by Leo Conrad, Lance Zimmerman and Larry J. Goldstein. 1983, Robert J. Brady Co.

Osborne User's Guide successfully addresses a number of weaknesses in the Osborne manual. First it presents a simple overview of the hardware, software and operating system that comes with the O-1. This information is useful to the beginner—but don't expect a detailed description of Wordstar or Supercalc. Where the book shines is in describing MBASIC for the novice programmer. About two thirds of the book is devoted to describing MBASIC structure, functions, and commands. The text is easy to understand and takes the reader by the hand through numerous examples.

One nice feature is the use of problem exercises to "test your understanding" of the subject being discussed. The subject matter takes you step by step through variables, arrays, loops, data input, random number generation, and subroutines. There is a chapter on editing and debugging programs and a useful chapter on sequential and random access disk files. The final part of the book is devoted to more complex programming subjects: string variables, computer simulation, and programming for higher mathematics. One nice addition is a chapter on graphics for the O-1. This chapter outlines the graphics characters available and how to print them. A sample program to draw bar charts is listed.

Osborne User's Guide is a valuable book for the novice programmer. The approach is simple and clear, and provides numerous examples to demonstrate the subjects discussed. Problems and answers are provided for the student to work through.

This is a good book for those who have "computerphobia" when it comes to programming.

Reprinted from VIOG, *the newsletter of the Vancouver Island Osborne Group.*

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Keeping track

Barbara Elman

Like many people who write, my mental filing cabinet works in random access fashion. It often takes more than 64K of internal memory to locate essential data hidden within my brain cells. I can easily remember my birthday, my name and my address, but trying to recall that brilliant idea for a new article which flashed through my memory banks last week may take some digging. Likewise, remembering when I last sent a query to the editor of *Portable Companion* is at best a shot in the dark.

Fortunately, I have computerized my writing habits as well as my writing itself, with the help of two programs that keep track of things for me. Both are technically "database managers," software I used to think was for accountants and business managers. Since my database is composed of words and ideas rather than inventory data or financial details, I was surprised to find these programs could unmuddle my thinking.

Here's how it used to be:

Before I sat down in front of my Osborne's tiny green screen, I needed to organize the research material and ideas I had collected to feed my hungry imagination. That material was far too elusive just when I wanted to use it: bits of paper torn from magazines, notes scribbled on edges of yellow pads, a book someone borrowed last week, a magazine article that appeared around Thanksgiving—all outside immediate reach.

I finally took all the cardboard boxes which were hidden away in my closet and emptied their contents. Sure enough, there were the articles and clippings I had been looking for! I gently placed them in clearly marked file folders, declaring never to toss a note into a cardboard box again. But when I went to find a particular piece on "international telecommunications," I had to remember whether it had gone into the "telecommunications" file or the "international" file, or some obscure place that had made sense at the time.

I also read more magazines than anyone I know (my mailman is stoop-shouldered from carrying them upstairs to my door), and I

always stick them on the bookshelf haphazardly when I'm done. Inevitably, page corners are turned down and paragraphs or items circled in red so I can "easily" find the material later, but then I forget where to look it up when "later" has become "now."

Last but far from least in this saga of disorganized organization, are those bright ideas I get while walking through the grocery store, or browsing in bookstores, or talking on the phone to my sweetheart. I often scribble a note to myself (usually illegible, since word processing has ruined my handwriting), certain I'll recall the beauty of the plan from this shorthand version, and tuck it away for safekeeping. Sometimes it even crawls into my "idea" file folder, there to moulder away waiting for my attention.

Each of these examples is graphic but true, and I despaired having to change my ways and become "organized" to make my writing more profitable (time is money, you know!). But with the help of my Osborne and a truly superb program called SUPERFILE (from FYI,

I despaired having to become "organized" to make my writing more profitable.

Inc., PO Box 10998 #615, Austin, TX, 78766; 512-346-0133), my sanity has been saved.

A friend introduced me to Superfile because he was researching database management software for business applications, and was especially impressed with its documentation. Knowing I am a stickler on the subject, he showed me the notebook-style manual, which in itself is a work of art. Each section is well-labeled, important points are clearly and boldly highlighted. And best of all, the actual operating procedures are demonstrated over a two-page spread, broken up into three columns. One column describes what the "computer says" onscreen, one instructs what you enter in response, and "comments" explains why and where this is useful, referring to other relevant data and where to find it in the manual. I walked right through the demo and found myself in love.

The real beauty of this program, however, is on disk rather than on paper. It is described as a "free format" information retrieval system that solves your filing problems, and it does. Each piece of information—an address, idea, reference to a magazine article, interview quote—can be cross-referenced up to 250 different ways, using words or phrases you choose and place in your custom keyboard dictionary.

Imagine this scenario: you want to collect all the information you've gathered for that article assignment on "Building The Better Mousetrap" in *Inventor's Weekly.* You've already input the quotes from the world's best mousetrap builder, references to articles on the feeding habits of grey mice vs. brown mice, statistics on how many inventions turn a profit for their inventors, and the statement about inhumane mousetraps by the president of the ASPCA which appeared in the *New York Times* last year. They

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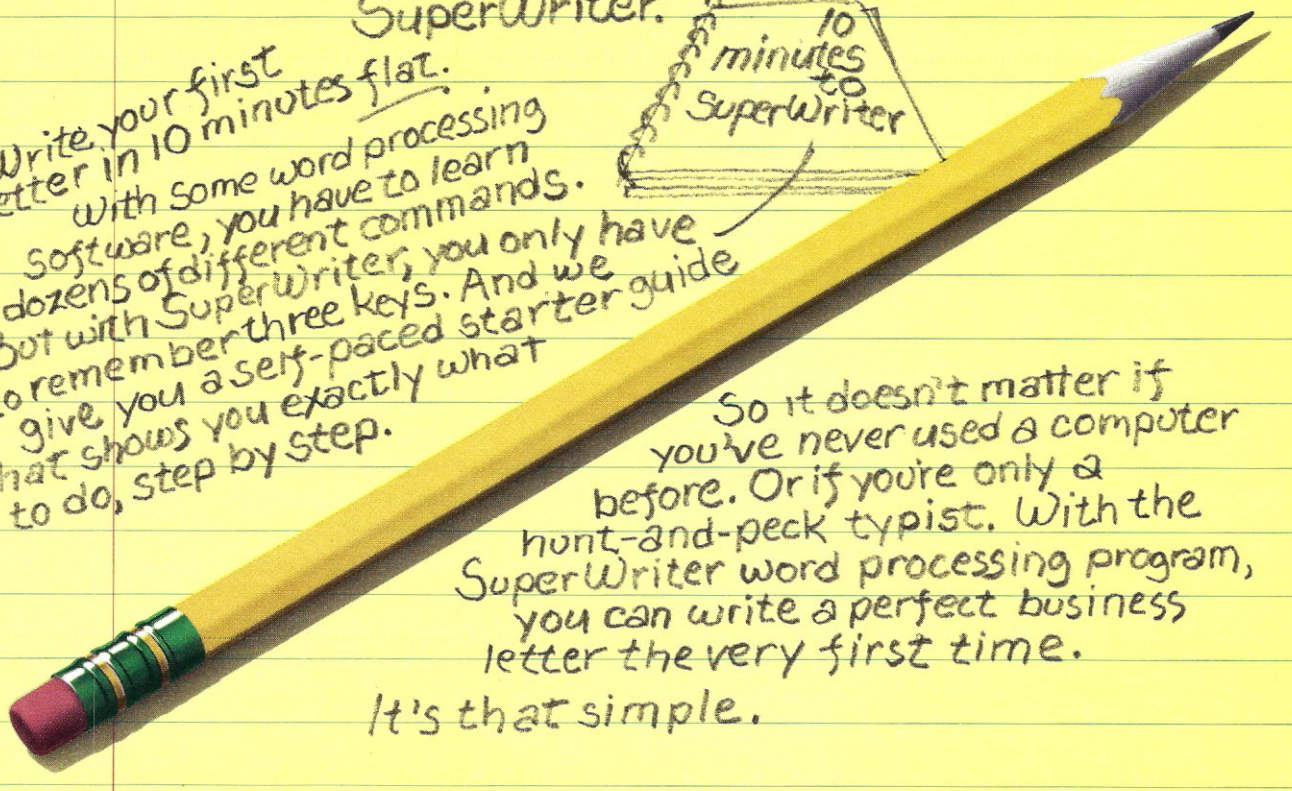

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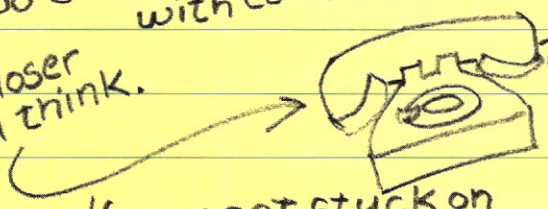

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reside in a WordStar file called "misc. data" among your other pieces of miscellaneous data.

You've properly followed the Superfile input parameters, coding a "*C" at the head of each separate data piece, and "*K" at the end of the text itself (typed in normal paragraph mode, with no limit on length). "*K" indicates end of text and beginning of keywords, which are the words you select to help retrieve these sections. My keywords in this case might be "mouse," "mice," "mousetrap," "inventions," "inventors," "animals," "cheese," and "statistics." Next I would type all the keywords that apply to my piece of data, separating them with a "/". When all the words I might ever use to search for this data are included, I end the section in Superfile style with a "*E." This may sound complex in description, but it was truly simple to learn, even for an absent-minded writer like me.

So now I'm ready to compose, and need these pieces printed out to decide whether they go into my final copy, and where. I have also created a keyword dictionary for "mousetrap article" with WordStar, so I run Superfile and call up that dictionary for my super search.

Since Superfile is a menu-based program, it reminds me which steps to follow, but is not patronizing or slow. I access my database file "misc. data" and display its dictionary to remember which keywords apply to my mouse story. After noting them on my handy yellow pad, I instruct Superfile to output the data to my printer and begin to search the database file.

I enter my search clauses by keywords "mouse," "mice," "mousetrap," "inventions," "inventors," "animals," "cheese," and "statistics." You can input "and/or/not" parameters, such as "mice" OR "mouse" NOT "rat" to include potential material and refuse irrelevant data simultaneously.

The number of entries which contain these keywords is displayed onscreen, and Superfile retrieves the entries selected. It then outputs the data to my printer so I can use it in my article. Since I will compose the text in a normal WordStar file, I can either retype short passages while composing, or PIP the mis-

cellaneous data document to my working disk and (via WordStar) write the selected mousy messages into their own files for recall into my document, or just note where they go and pull them in later.

In this case, Superfile would have saved me an hour of searching through bits of paper and back issues. It also has some handy utilities I haven't yet tried. You can sort and merge files numerically or alphabetically (useful for alphabetic sort of bibliographies, numerical sort by zip code for mailing lists). You can split files without altering the original data file (which I could do with my mouse materials above). You can also change characters (a global search and replace), recognizing and converting up to 255 different characters within a file in a single pass, but leave the original file intact (useful for changing upper case to lower case, numbers to letters, name A to name B).

Other ideas for Superfile include using it as a "tickler" file, with the date or week or month you want to be reminded of as a keyword; cross-indexing correspondence (both incoming and outgoing); compiling and sorting library and reference citation notes, product descriptions, or personnel information; customizing or creating contracts; and even keeping tabs on contacts and follow-up data.

It reminds me which steps to follow, but is not patronizing or slow.

FYI Software also has a mailing list program (which can work with Superfile or on its own), and I will review it in a future issue. If it's as easy and useful as Superfile, I predict it will revolutionize my submission mailing list in a day.

Speaking of submissions, another program has already helped me keep track of where my articles go and where my money comes from (not to mention who sends those rejection letters). WRITE TRACK by Marilyn Gratton (Gradan Consulting, POB 3594, Thousand Oaks CA 91359; 805-497-4250) is another database management program, but specifically compiles data on when your article went out, where and who to, and follow up: whether it was purchased, how much you were paid, whether photos accompanied, and even how much postage or printing cost was spent.

Also menu driven and simple to use, Write Track can print reports in alphabetical order, with market specifics and editors' names noted too (useful at tax time to recall data by sales and display what each article earned). Personal notes can be kept with submission data, such as whether a particular editor dislikes dot matrix print-outs.

With my databases managed now, I have no excuse for wasting time while searching for ideas, notes, and other relevant information. I've happily replaced scrambling through boxes with playing Munchkin onscreen to avoid sitting down to work when writer's block strikes. In my expert opinion, this is computerized progress.

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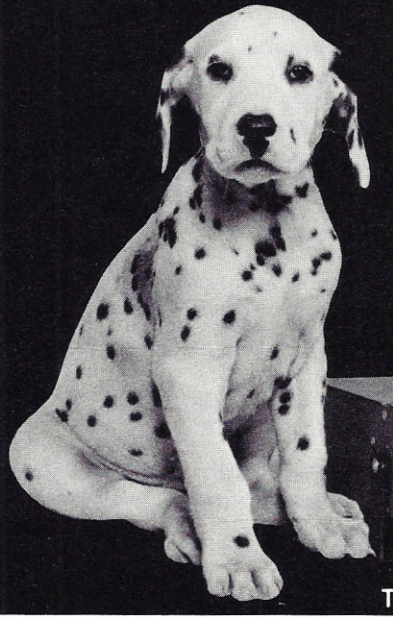

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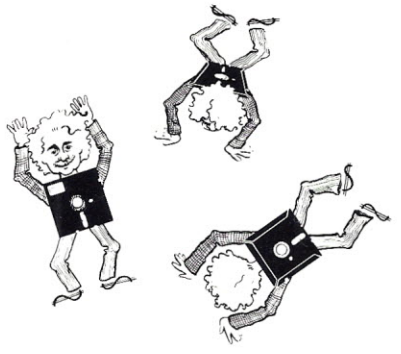

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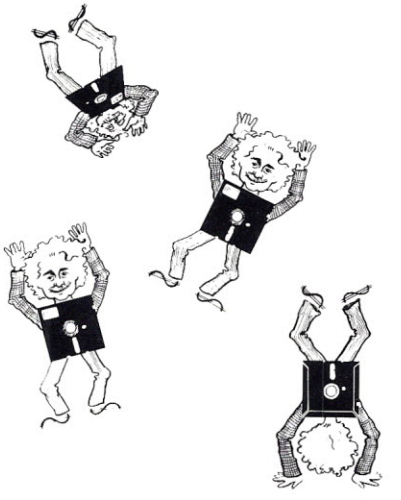

Beginner's Luck

The easy way

John Gaudio

We normally work with two types of diskettes, system or program diskettes like WordStar, SuperCalc, or MBASIC, and data diskettes that hold the letters, spreadsheets and lists we create. System disks normally go into the A drive, and data disks go into B.

We organize data disks by subject. Typical subjects might be Accounts Receivable, Accounts Payable, or Correspondence. Each may contain letters written with WordStar, SuperCalc spreadsheets, and lists from dBase II or Personal PEARL. The common bond is the subject.

Before you put data on a diskette, that diskette must be formatted. You'll find though that doing a little more than just formatting your data disks will make life easier. We'll create a Master Blank Data Diskette, and then create working data disks by making copies of the master. Once the Master Blank Data Diskette is created, it takes no more time to make copies than it would to simply format new disks.

The master diskette is created by formatting a new disk, putting CP/M on its system tracks, and adding a couple of handy programs.

Put your CP/M System diskette in Drive A, and a new diskette in Drive B. Make sure that the disk in B is NOT write protected! Close the drive doors. Press the **RESET** button, and press **RETURN.** You have just "booted" the system. The CP/M Help menu should appear, and you'll press the escape **[ESC]** key. This takes you to CP/M's A> (read A prompt).

Now CP/M is waiting for your command. You type: **COPY⟨CR⟩** where ⟨CR⟩ means press the RETURN key. The program COPY.COM is read from the disk into the computer's memory, and in seconds it's displaying the following message:

C Copy diskettes
F Format diskettes
Return Exit program

Press C to Copy, F to Format, or Return to Exit

Press **F** for formatting, and the COPY program now asks you to:

Select diskette to Format (A or B) or press RETURN for main menu

Here we select **B,** and are told to:

Place diskette to be formatted in drive B and press RETURN when ready

Our new diskette is already in Drive B, so we press **RETURN.** If you have a single density Osborne 1 the formatting begins immediately. If you have double density, one more question has to be answered.

S Single Density
D Double Density

Press S for Single Density, D for Double Density

Double density users will choose D to create a double density Master Blank Data Diskette.

Formatting a diskette is like putting lines on a piece of paper. The "lines" on a diskette are called tracks and there are 40 of them. These are concentric circles, like a target, and are numbered from 0 on the outside to 39 on the inside.

Your screen now shows a column for each of the tracks from 0 to 39, and places a * under each track as it's properly formatted. When it's done the message "FORMAT completed successfully" appears.

Formatting a diskette is usually just that easy, but sometimes an **E** will come up in place of one of the *s. When this happens you've run into an error. If this happens, make sure your diskette is NOT write protected. If that's not the problem try another diskette, or try formatting in the A drive. If it still doesn't work check with your local users group or dealer.

You can now format several more diskettes, but we're doing things a better way. We'll want to "Press **RETURN** for main menu" and press **RETURN** once again to exit. The A> now returns.

Having formatted a disk we must now put some very special information onto what are called the system tracks. These are tracks 0, 1, and 2 on the outside of the diskette, and they contain the CP/M Operating System—the smarts of the machine. Without an operating system the Osborne 1 would be pretty dumb. In fact it couldn't do much more than display the start up message.

Insert a diskette in Drive A and press **RETURN.** The smarts (CP/M) are then loaded into the computer from the system tracks of the diskette in Drive A. This is exactly what happens each time you start or "boot" the system. There are other times when the system tracks are read, and putting CP/M on those system tracks is like putting oil in your car. Do it and everything works fine. Forget it, and it'll backfire on you.

CP/M is put onto your system tracks with a program called SYSGEN. SYSGEN is found on your CP/M System Disk, and stands for SYStem GENeration. It's used to copy CP/M from the system tracks of one diskette to those of another.

With your newly formatted diskette in B, your CP/M System Diskette in A, and the A> on the screen, type: **SYSGEN⟨CR⟩**

SOURCE drive (A or B) _

will appear on the screen, and you respond by pressing **A.** This tells the program that we are taking CP/M from the system tracks of the diskette in Drive A. Drive A is the SOURCE. The message:

Put SOURCE diskette in drive A, then press Return

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appears. Since the source diskette is already in Drive A, we simply press **RETURN** and wait for the following message:

System read successfully.

CP/M has been copied from the system tracks of the CP/M System Diskette in Drive A and stored away in the Osborne's memory. We are now asked to specify the

DESTINATION (A, B, or Return to exit) _

We select **B** for our Destination, and the message

Put DESTINATION diskette in B, then press Return

appears. With our destination diskette already in the B drive we simply press **RETURN.** At this point the CP/M operating system is copied from memory to the system tracks of what is rapidly becoming our Master Blank Data Diskette.

The message

System copied successfully.

then appears along with the request for a

DESTINATION (A, B, or Return to exit) _

Press **RETURN** to exit, and you'll be greeted by our old friend the A>.

Most of the battle is now won. You have formatted and "sysgened" a diskette, and you can now use it for data. But there are still a couple of programs that you'll want to add. These are XDIR.COM and PIP.COM, and both are found on your CP/M System Diskette.

To move XDIR.COM over to the B drive respond to the A> with:

PIP B: = A:XDIR.COM[V]⟨CR⟩

- **PIP** is the name of the program we're using
- **B:** is the destination
- **A:XDIR.COM** is the file we want to copy
- **[V]** tells PIP to Verify that the information is copied correctly.
- **⟨CR⟩** of course means press RETURN.

Pressing **RETURN** lights the A drive and the program PIP is loaded into memory and run. The PIP program then checks the B drive (you saw the light go on over there didn't you?) and then reads XDIR.COM from the A drive into memory. Once the A light goes out, B lights up again and XDIR.COM is moved from the memory over to the disk in B. Don't forget the [V]! It'll help keep you out of trouble.

Now we'll use PIP once again to move a copy of PIP.COM over to the diskette in Drive B. Do this by using the same command that moved XDIR.COM over to B, and changing the XDIR.COM to PIP.COM. The new command is:

PIP B: = A:PIP.COM[V]⟨CR⟩

Again the drives whir, the lights glow, and in a moment the A> is once again upon us. Now try the command:

XDIR B:⟨CR⟩

to see what's on the B drive. You'll find PIP.COM, and XDIR.COM on your Master Blank Data Diskette.

All that's left to do now is label and write protect the Master Blank Data Diskette. To use the Master Blank Data Diskette, just make copies of it using the COPY program, and label them according to the subject.

Having PIP and XDIR on each data diskette can be invaluable. Having CP/M on the system tracks is a great help too, and making copies of the master takes no longer than formatting new disks from scratch. You now know how to do it the easy way!

John Gaudio runs Independent Training Plus, a Denver based operation that specializes in training users of the Osborne 1 and solving their problems. He is a regular contributor to the Portable Companion, and to the newsletters of the Denver Osborne Group and the First Osborne Group.

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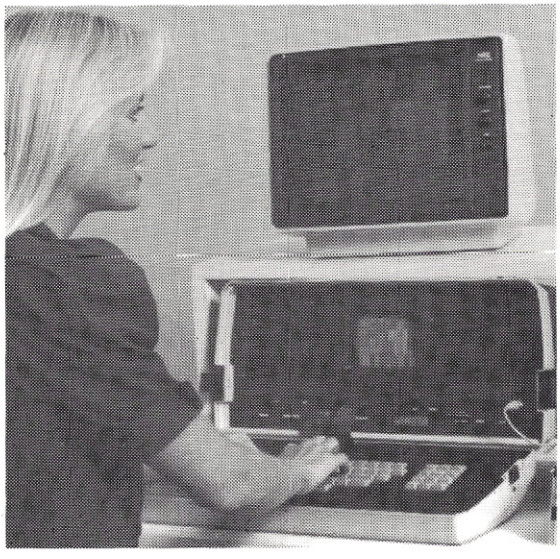

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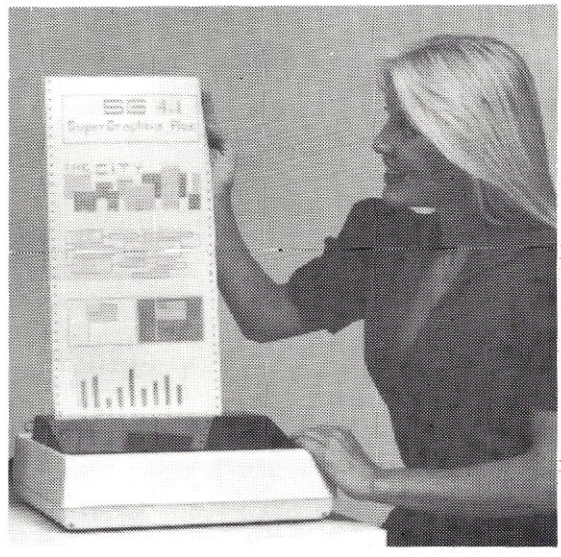

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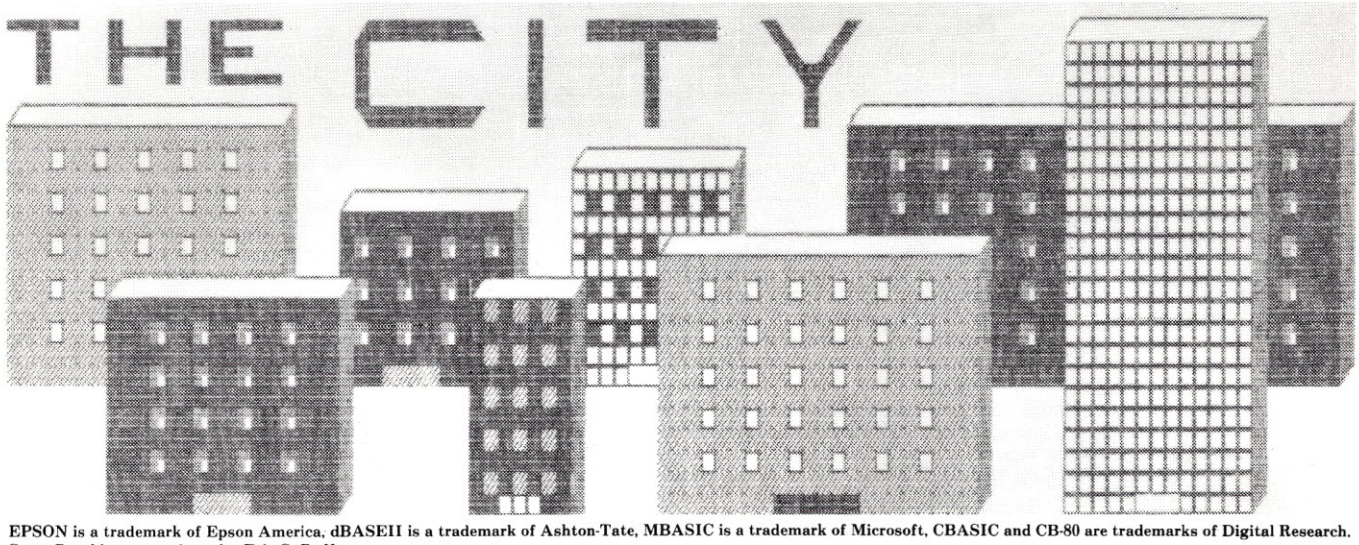

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Disk Doctor™
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dBASE II™
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SuperSort™
Allows the Osborne user to perform sorting, merging, and record-selection functions on data files. SuperSort is compatible with BASIC, Fortran, Cobol and assembler applications programs, and can also be used with mail lists maintained with Mailman™ and WordStar. Sorts up to 32 files into a single output file, automatically using external merge as necessary, depending upon the amount of data and memory available. *(MicroPro™)*

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Microsoft® Basic Compiler
Allows Osborne users to compile their MBasic interpretive programs into true Z80 machine code. The Basic Compiler provides you with three major benefits: 1) increased speed of execution for most programs; 2) decreased program size for extremely large programs, and 3) source code security. When you distribute a compiled program, you distribute optimized machine code, not source code. Consequently, you distribute your program in very compact form and protect your source program from unauthorized alteration. The package also included a relocatable Z80/8080 assembler for use under CP/M. *(Microsoft™)*

Mailman™
Mailman creates and manages your mailing list. Formatted screen entry with eight different selecting criteria gives the Osborne user ease of access and entry, along with discrete listing capabilities. In addition, the program automatically sorts data by zip code and name. Mailman is designed to work with WordStar and MailMerge® . *(Standard Microsystems™)*

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BSTAM is a telecommunications program that allows the Osborne user to send and receive any CP/M file with complete error checking. The BSTAM documentation gives the user a comprehensive overview of types of channels, modes of transmission, sending and receiving any CP/M file. A copy of BSTAM is required on both systems involved in the communication. *(Byrom SoftwareTM)*

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Spellguard™
Spellguard is a computer program that helps the user to eliminate spelling and typographical errors in written materials prepared with WordStar. Two dictionaries are supplied with Spellguard: the first consists of 20,000 of the most frequently used words in the English language and the second contains 10,000 words and can be easily expanded to include technical vocabulary and/or foreign languages. *(Sorcim™)*

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READGR	LOG	USER	TYPE	JP
DUMPH	LOAD	SETSYS	RUN	

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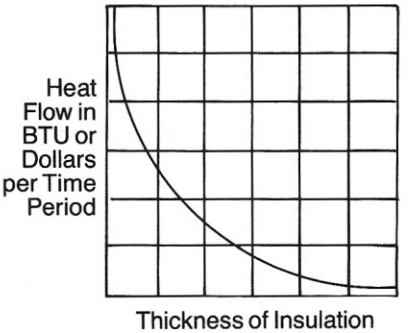

Figure 1

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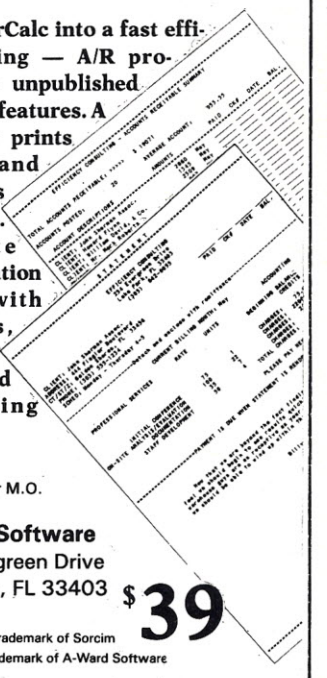

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Worksheet With Formulas

```
  |      A      ||          B          ||   C  ||D||   E  ||   F   ||
 1|Insulation Worksheet
 2|
 3|    Fuel Cost =                                kwh, gal, therm
 4|
 5|    Fuel type =                                natural gas = 1
 6|    Fuel Factor LOOKUP(B5,D34:D38)             electricity = 2
 7|                                               oil = 3
 8|      Zone #  =                                propane (lb) = 4
 9| Climate factor LOOKUP(B8,A34:A41)             propane (gal) = 5
10|
11|   (B3xB6xB9) = B3*B6*B9
12|-----------------------------------------------------------------*
13|        present                        improved |  present improved
14|        windows                         windows |    insul    insul
15|     R rating =                                 |
16|                                                |
17|        area to                                 |
18|     insulate =                            B18  |                E18
19|                                                |
20|   Cost of heat                                 |
21|  loss/sq ft  $ B11/B15                 B11/C15 |  B11/E15  B11/F15
22|                                                |
23|   Cost of heat                                 |
24|loss per year $ B18*B21                 C18*C21 |  E18*E21  F18*F21
25|                ========                        |   ======
26| Savings (yr) $ B24-C24                         |  E24-F24
27|  Total costs =                                 |
28|  Payback (yrs) B27/B26                         |  E27/E26
29|-----------------------------------------------------------------*
30|
31|
32|  LOOKUP Tables
33|                Climate                          Fuel
34|               1 62                            1      .013
35|               2 86                            2       .30
36|               3 110                           3      .010
37|               4 134                           4       .06
38|               5 158                           5      .013
39|               6 182
40|               7 206
41|               8 230
```

Look what up?

What is LOOKUP and EXECUTE? As technical editor, I receive a few questions per week on EXECUTE and virtually nothing on LOOKUP. I suspect that most people may not realize LOOKUP exists. (*As of this writing—April '83—these commands are undocumented in the Osborne 1 manual. EXECUTE is only available to new computer purchasers; SuperCalc upgrade dates or costs have not been set.*)

LOOKUP looks for a value within a table that comes closest to the one specified. For example, I use it here to bring back climate and fuel factors. It looks at a cell value, then looks at a "lookup table" and picks out the value immediately to the right of the number that comes closest to the cell value. If it detects a number greater than the one called for, it will select the next lower reading in the table. (Confused? See the examples in the worksheet. It's easier to understand when seen in action.)

EXECUTE is a new feature of SuperCalc, and quite powerful. Think of it as similar to CP/M's SUBMIT function or Osborne's SETUP function key program. EXECUTE "executes" an entire series of SuperCalc commands written with a text editor (WordStar non-document file). With one file

Worksheet With Sample Values

```
  |      A      ||   B  ||   C  ||D||   E  ||   F   ||
 1|Insulation Worksheet
 2|
 3|    Fuel Cost =     .353        kwh, gal, therm
 4|
 5|    Fuel type =        1        natural gas = 1
 6|    Fuel Factor     .013        electricity = 2
 7|                                oil = 3
 8|      Zone #  =        1        propane (lb) = 4
 9| Climate factor       62        propane (gal) = 5
10|
11|   (B3xB6xB9) = .284518
12|-----------------------------------------------------*
13|        present          improved |  present improved
14|        windows           windows |    insul    insul
15|     R rating =     1.06      2.2 |        3       20
16|                                  |
17|        area to                   |
18|     insulate =      400      400 |     2000     2000
19|                                  |
20|   Cost of heat                   |
21|  loss/sq ft  $      .27      .13 |      .09      .01
22|                                  |
23|   Cost of heat                   |
24|loss per year $   107.37    51.73 |   189.68    28.45
25|                ========          |   ======
26| Savings (yr) $    55.63          |   161.23
27|  Total costs =      300          |     1000
28|  Payback (yrs)     5.39          |     6.20
29|-----------------------------------------------------*
30|
31|
32|  LOOKUP Tables
33|                Climate              Fuel
34|               1      62            1    .013
35|               2      86            2      .3
36|               3     110            3     .01
37|               4     134            4     .06
38|               5     158            5    .013
39|               6     182
40|               7     206
41|               8     230
```

Optional DO/IT.XQT File

```
/FCA
15
/FCB
8
/FCC
8
/FCD
3
/FCE
8
/FCF
9
/FCG
9
"Insulation Worksheet
/FR21
$
/FR24
$
/FR26
$
/FR28
$
=G12
"*
=A12
'-
=D13
" |
/RD13
D14:D28
=B25
"========
=E25
"======
=G29
"*
=A29
'-
=A32
"LOOKUP Tables
```

Formats various column widths

Title

Formats $ value cells

Draws horizontal line using special apostrophe command

Draws vertical line using replicate command

More horizontal lines

Text

Figure 2

execution, several components of a spreadsheet can be laid out. Figure 3 was executed from one file with the appropriate column widths, $ value cells, horizontal lines, vertical line, and a few titles drawn in. Perhaps it's not the most powerful application of EXECUTE, but it sure is fun to watch it take off and do its stuff. Figure 2 explains in detail the DO/IT.XQT non-document WordStar file from which the commands were drawn.

Working on the worksheet

The worksheet itself is simple enough. In cell B3 enter the unit cost of fuel. (I ignored stepped billing rates contingent upon "lifeline" energy usage.) Enter a number from 1 to 5 depending upon the fuel type shown in the worksheet's chart. The LOOKUP function calculates the fuel factor.

```
  |      A      ||   B  ||   C  ||D||   E  ||   F   ||   G   |
 1|Insulation Worksheet
 2|
 3|
 4|
 5|
 6|
 7|
 8|
 9|
10|
11|
12|-----------------------------------------------------*
13|                                  |
14|                                  |
15|                                  |
16|                                  |
17|                                  |
18|                                  |
19|                                  |
20|                                  |
21|                                  |
22|                                  |
23|                                  |
24|                                  |
25|                ========          | ======
26|                                  |
27|                                  |
28|                                  |
29|-----------------------------------------------------*
30|
31|
32|LOOKUP Tables
```

Shaded areas indicate $ formatted cells.

Appearance of Worksheet After Execution of DO/IT.XQT.

Figure 3

Use Figure 4 to extract your climate zone number. LOOKUP calculates the climate factor; both fuel and climate factors are inventions of *Consumer Reports* to simplify the calculation process. The fuel factor takes into account the different amounts of heat produced by different fuels. The climate factor takes into account average differences between indoor and outdoor temperatures in various parts of the country over the course of the heating season.

Row 15 handles the R factors. An R rating refers to how much a given material (fiberglass, wood, glass, etc.) resists the flow of heat through it. Figure 5 is a table of R ratings derived and averaged from four different sources, so treat them as best-guess approximations.

"Present" and "improved" refer to the before-and-after-insulation process. If the R-value of a wall is 3 and R-19 insulation is added, the improved insulation cell should read 22.

Window insulation is treated separately from structure insulation because insulation costs and R-factors are obviously different for the two.

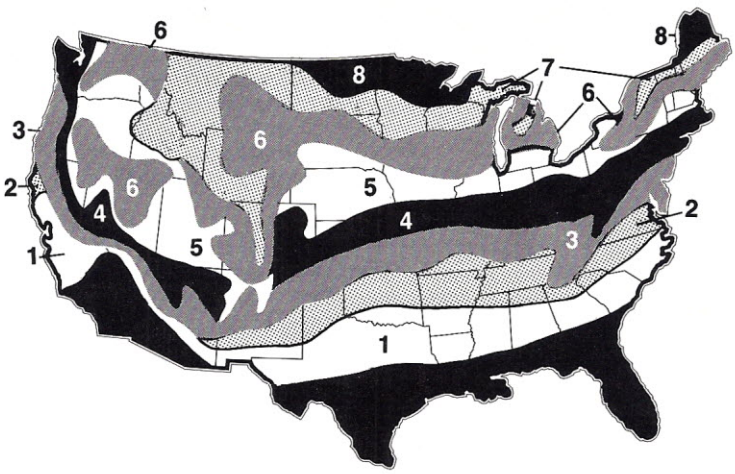
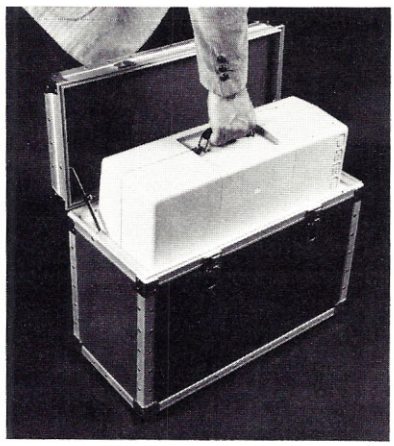


Figure 4

Note: The total cost of the job is something you will have to obtain on your own. It depends upon the product used, the R-value (thickness), the area to insulate, and applicable labor costs. A straight line determination may not be possible; I did not connect any formulas at the total costs cell with the rest of the spreadsheet. For example, I did not assume that insulation prices increase in direct proportion to R-rating (one can pay a premium price for the thicker insulation). Also, does a labor contractor charge less to insulate large areas than



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A Heat Flow Formula

This formula gives you a better idea how much money sails through your walls or windows during a given hour and given outside-inside temperature difference. Furnace efficiency figures are supplied as well as standard fuel values.

$$\frac{(\text{Area}) \times (\text{temp1} - \text{temp2}) \times (\text{cost of fuel per unit})}{(\text{R-total}) \times (\text{Efficiency}) \times (\text{Fuel value})}$$

Area = area to be measured, in sq ft. Use 1 for the heat loss per square foot

temp1 – temp2 = measure the inside and outside temperatures, and take the difference. Keep the value positive (75 – 65, not 65 – 75).

Efficiency = Convert percentage into .6, .65, 1, etc.

Example equation:

How much money sails through a single 4 x 5 window (no air leaks) during one hour's time? Inside temp 70, outside temp is 50. Window is R-rated at 1. Fuel costs $.4 per therm.

$$\frac{(4 \times 5) \times (70 - 50) \times (.4)}{(1) \times (.65) \times (100000)} = \$.0024$$

Fuel	Fuel Value	Assumed efficiency
oil	140,000 BTU/gal	60%
natural gas	1000 BTU/cu ft 100,000 BTU/therm	65%
propane	90,000 BTU/gallon	65%
butane	130,000 BTU/gallon	65%
electricity	3400 BTU/kwh	100%
electricity (heat pump)	3400 BTU/kwh	200%

small areas? Does the price of the insulation come down for the same reason? If you can determine any of these items, feel free to include appropriate formulas in the worksheet. Any item can be manipulated to suit an individual need.

Hint, hint

I would think that a multi-task energy worksheet would have considerable vertical market value. Insulation contractors, utility companies, "do-it-yourself" hardware stores, solar engineers, and solar energy suppliers could use an energy CalcAid to demonstrate to the customer savings, costs, payback periods, heat losses, and a host of other economic and technical aspects of their product.

Typical R-Values

Insulation

Fiberglass batts or blankets	R-3.2/inch
Loose-fill	
Cellulose	R-3.5/inch
Fiberglass	R-2.5/inch
Mineral wool	R-3.5/inch
Expanded polystyrene	R-3.4/inch
Vermiculite	R-2.1/inch

Building Components

Walls	
Uninsulated wood frame, with:	
Stucco	R-3
Wood siding	R-3
Wood shingles	R-5
Brick	R-4
Concrete block	R-4
Ceilings (under attics)	
Gypsum (½")	R-2
Acoustical tile	R-3
Floors (over crawl/basement)	
Carpet and pad (rubber)	R-2
Wood subfloor	R-1
Hardwood floor	R-.7
General average	R-3
Windows (vertical)	
Single glazed	R-.9
Double glazed	R-2
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Drapery liner	R-1
Thermal shutters	R-2.5 to R-6.0

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Printers

Since Osborne owners have WordStar™, compatability is a key issue. You can install WordStar for most printers, or your dealer can, but find out about this *before* you buy a printer. You can use either parallel or RS-232C (serial) interfaces, but we suggest parallel for most interfacing, using the IEEE488 port.

C. ITOH

Prowriter

Reviewers laud the **Prowriter**'s speed (120 cps), the buffer (1.5K), character sets (5 fonts) and graphics (160x144 dpi). The **Prowriter 2** has the same specs, but in a 132 column format. Because delivery is slow nationwide, the **Prowriter** has become "The Printer Worth Waiting For..."

Prowriter **$399.88**
Prowriter 2 ..... **$734.88**

STAR MICRONICS

Gemini 10X/15

Gemini 10X (a new version) features 120 cps, 120 x 144 dpi, 5 fonts (w/italics) and a 2.2K buffer. It's Epson code compatible too. **Gemini** comes with tractors & uses plain spool ribbons. The **Gemini 15** is the 132 column version.

Gemini 10 ..... **$339.88**
Gemini 15 ..... **$499.88**

OKIDATA

Microline Series

Microline 82As & **83A**s are data crunchers with 120 cps and optional dot-addressable graphics ROM. They come with both parallel & RS-232C interface (up to 1200 baud).

The **Microline 92** & **93** are text processors with 160 cps draft mode, a 40cps correspondence mode & the graphics included.

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82A/92 Tractor **$59.88**
Microline 83A **$679.88**
Microline 92 ..... **$524.88**
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Letter-Quality

C. ITOH

Starwriter

The **Starwriter** uses Diablo code, wheels & ribbons, has 132 columns, a 40 cps print speed, 1/48" line space & 1/120" horizontal spacing—ideal for proportional modes. Parallel or RS-232C interfacing. (For real speed freaks, there's the **Printmaster**, at 55 cps. Same specs as above.)

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SILVER REED

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Reviews

Transtar 130

In the past I have taken printer manufacturers to task for not providing installation application notes and word processing instructions. The typical manual gives every indication that word processing has not yet been invented, and that the printer's primary use is to merely churn out page after page of data from program runs.

For the novice user, deciphering Egyptian hieroglyphics would be easier compared to understanding printer control codes, signal definitions, and hexadecimal gobbledegook. The end user should be provided with clear, concise information on: 1) how the printer connects to the computer, and 2) how WordStar is installed for full printer capabilities.

With that in mind, I spent a month examining and reviewing the *Transtar 130* daisy wheel printer and the marketing/support philosophy behind the product. I found the Transtar 130 to be a first class product backed by excellent company support.

The first feature that struck me about this $895 18 cps daisy wheel printer was its appearance. The 130 is sturdy and fairly heavy (31 lbs)—it's not at all flimsily or cheaply built. I liked the low-profile design and surprisingly quiet print operations; inexpensive daisy wheel printers tend to be unnervingly noisy.

Transtar added a convenient "autoload" function that loads single sheet paper to one of four selectable positions, something I have not yet seen in other daisy wheel printers.

In a unique move for daisy wheels under $1000, the Transtar 130 was coded for Diablo compatibility. Simply stated, by installing WordStar as a Diablo 1610/1620 using the INSTALL program (takes less than 30 seconds), the following features are accessed:

- bi-directional printing
- true super/subscripting
- true 1/120th offset boldfacing
- micro-justification
- incremental vertical and horizontal motions

The parallel 130 uses the widely distributed Centronics cable for "plug and go" interfacing. The serial model interfacing is equally convenient: A standard RS232 cable is all that is required. Hardware handshaking is performed inside the printer in order to eliminate the bother of protocols, swapping wires for reverse channeling, or buffer overflows.

Other miscellaneous features are:

- 10 or 12 switch selectable pitches
- proportional spacing (if and when MicroPro releases it for WordStar)
- optional $150 tractor feed
- six month warranty

The printer did everything it was supposed to, but I did uncover one area for improvement: the paper entry pathways did not provide enough clearance for paper movement. Several times (a dozen or so), single sheet paper wrapped around the rubber platen or jammed and crinkled as it exited from the printer. It usually happened when I was in a hurry; perhaps an argument could be made that "operator error" was to blame. However, I felt that sound shielding deflected the top edge of the paper not allowing it to exit smoothly at natural angles. Of course, tractor feeding would eliminate this problem.

The most impressive component of this remarkable printer is the support provided by Transtar. Transtar sends to dealers step-by-step application notes detailing how SETUP and INSTALL are used. To further ensure end user satisfac-

BUSINESS GRAPHICS

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tion, Transtar makes it difficult for mail-order marketing of its printers. Transtar products are sold only to retailers/dealers that have "face-to-face" customer contact and provide "complete professional product support—including on-site technical support, training and installation," says Dennis Eckert, Product Specialist for Transtar. With Transtar providing the application notes and easily interfaced printer, the dealer's task should not be terribly difficult.

Says Transtar's president Dick Lawrence, "The user needs support from qualified, trained personnel to get the most out of their purchase. Most suppliers of peripherals refuse to recognize the necessity of the dealer's value-added function."

Amen, Transtar. Amen.

Brad Baldwin

The touch of Touchtyp

"ff jj ff jj fj fj fj dd ks ds kk..." tapped my 13-year-old son on the keyboard of our Osborne.

"ff jj ff jj fj fj fj dd kk dd kk..." replied the Oz. "You should have entered the above. You made 2 errors at the underlined locations."

That's the first exercise in the opening lesson of *Touchtyp,* a touch typing tutor program written in MBASIC, custom-designed for the Osborne and marketed mail order for $79 by Micro-Art Programmers, 173 Birch Ave., Cayucos, Calif. 93499.

It's very effective. My son is well on the way to becoming an ace at QWERTYUIOP after just a couple of weeks of practice each evening. Except for three minor drawbacks, it's an impeccable program.

Just four days after I ordered it by phone, the program disk arrived with an exceptionally simple and clear manual that's only needed to get started, for the program is entirely menu-driven. Once your working Touchtyp copy is SYSGEN'd, you load it in Drive B, boot MBASIC in Drive A, type RUN "B:A", and you're off.

It's a well thought-out program with five major subdivisions: Beginners I and II, Intermediate I and II and Advanced. Beginners focuses on the alphabet and some of the punctuation and control keys. Intermediate teaches numbers and symbols as well as the rest of punctuation and control, and Advanced offers exercises for speed and accuracy. Each subdivision contains eight lessons and takes about half an hour to get through at a pokey beginner's rate.

Each lesson contains a number of exercises. As you complete each exercise, the program repeats it, counting and underlining the places, if any, where you made mistakes. If you make too many blunders, you're urged, "Slow down! Accuracy is more important than speed!" At the end of each subdivision, the program gives you an over-all score with percentage of accuracy.

Two of the three drawbacks are exceedingly minor, and even the third can be lived with. First, if you make more than two mistaken character insertions or deletions in a row, the error checking and display algorithm is upset and the remainder of the lesson will be marked incorrect, even if the rest of the characters are correct.

The second deficiency: The lessons are not timed. The program does not tell you your words-per-minute speed, as do several programs for other brands of computer. It focuses entirely on accuracy.

The third problem can be unsettling when you first come across it. In several places in the Advanced section, the cursor locks solid and won't move, no matter what control character you hit. I hit RESET and dumped the program several times before realizing that the lockups are brief—12 to 15 seconds—and the program resumes normally afterward. But this seemed like a vexatious bug for a program that cost $79, so I wrote a letter of inquiry to Micro-Art about it. In just a few days a courteous reply came from the company's Arthur Purcilly.

"The problem lies within the limited RAM of the Osborne while running under MBASIC," Purcilly wrote. "MBASIC leaves only about 29K bytes for Touchtyp, which takes another 18K, leaving only 11K for operating the program. All the logic necessary to implement the various reading and checking state-

ments of Touchtyp quickly chews up the rest. So, whenever the program runs into the top of RAM, MBASIC does some housekeeping by dumping old items in memory that are no longer required and then proceeds."

Microsoft's MBASIC compiler would save some 30K of RAM, Purcilly added, and eliminate the problem. But Microsoft would require a $40 royalty on each program disk distributed, "which would price Touchtyp out of a reasonable area."

Micro-Art is seeking to upgrade the software, Purcilly said, "attempting to incorporate a timed typing drill along with looking at other means to correct the memory overflow problem."

As it exists, however, Touchtyp is a fine value. So long as you are aware of its limitations and the reasons for them, you won't be disappointed.

Henry Kisor

Author's Note: A few weeks after my exchange of letters with Micro-Art, I received in the mail—free—a newly revised Touchtyp diskette and another letter from Purcilly. The Micro-Art software engineers "had been able to nearly eliminate" the memory overflow problem—"the only thing you might notice is a momentary hesitation in a long while!" I gave the diskette a try, and it does indeed work much better. My already high opinion of this program and its marketer goes up a couple of notches.—H.K.

Fun and games with your Osborne

I am a lawyer, an editor, and a freelance writer. But deep inside, I'm just a kid. When I'm bleary-eyed from hours of slaving over my hot keyboard—dizzy with dozens of WordStar commands—I love to relax with a good video game. And now, even with my businesslike, no-nonsense Osborne, I can.

The people at Portable Software have designed about a dozen action games for the Osborne computer. All make good use of the Osborne's graphics capabilities. I have had the pleasure of playing a number of them. Here are my impressions:

Acid Rain: This game doesn't look like much when you start out, but it's remarkably challenging. You control a blinking square cursor with the numeric keypad. Pressing number 8 moves you straight up, and 2 moves you down. Four and 6 move you left and right, and 1, 3, 7, and 9 allow diagonal movement.

Your job is to prevent the acid raindrops (represented by dots, and then asterisks—acid snowflakes?) from hitting the ground. You stop a drop by intercepting it with your cursor. Pretty soon, you're dashing desperately all over the screen, as the rain falls thicker and faster. Acid Rain can provide many hours of fun.

Ozzyman: Here's the Osborne version of the old favorite, Pac-Man. Move your oval cursor through the maze with your computer's arrow keys. You're chased by little monsters (conveniently represented by letter M's). When you chomp through a power pellet, the M's change into E's (for "edible"?), and a timer counts down the seconds remaining in which to gobble them up. The high-resolution graphics are excellent. I highly recommend Ozzyman for the kid in each of us.

Catacomb: You are descending through various levels of the aliens' nest. Touch the walls or any of the numerous obstacles crowding the passage, and it's curtains for you. Pick up the aliens' eggs for extra points, and the medicine vials for additional lives. Steer yourself through the catacomb maze with the numeric keypad, as in Acid Rain. Catacomb is challenging and amusing. I enjoy it immensely.

Survivor: You are an oval on a grid that's littered with dangerous obstacles (bright rectangles) and peopled with Sandroids (black rectangles). Sandroids are vicious—they'll come after you relentlessly. But they're not too bright; they'll run right into any obstacles in their way and be destroyed. All you have to do is stay alive long enough for all the Sandroids to bite the dust. That requires a lot of frenzied action with the keyboard's arrow keys.

Even at its more challenging levels, Survivor is a rather simplistic game. It's enjoyable at the outset,

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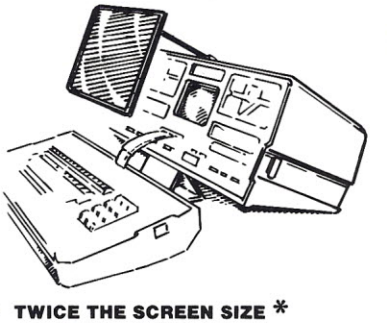

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but its appeal wears thin after some repetition. That can be said of any video game that's overplayed, of course; but Survivor offers a bit less variety than most.

Valor: If Survivor is a bit too simple, Valor is a bit too complicated. You run through a maze (they call it a level in an infinitely tall tower) using your arrow keys. Four robots try to do you in, but you can shoot back with your space bar. You can dodge into boxes that will relocate you randomly across the maze, and you can also escape to a higher level if you love danger. Finally, a "challenge" occasionally appears on the screen. Capture it and the maze is replaced by a question or skill test, which can earn you bonus points.

Valor is an exciting action game, but it can be frustrating. The robots move extremely fast and randomly, so it's very hard to draw a bead on them before they zap you. Still, I recommend Valor heartily for its action.

Trapper: Here is one of Portable Software's brain games. It's for two players. Each is represented by his initial on a blank, bordered screen. The object is to move your initial around the screen, leaving a trail of initials behind you, in an effort to trap your opponent without running into the border or your own trail. You need quick wits, quick fingers, and a clever strategy to box in your opponent. Anyone who saw the movie "*Tron*" or has played its video-game spin-off will recognize Trapper as the Ozzy version of the motorcycle race. Trapper does not offer the graphics and action of the other games reviewed here. What it does offer is a challenge to your wits and speed—and your friend's.

All these games, and several others, are available from Portable Software, 216 Penn Avenue, Oxford, Pennsylvania 19363 (215) 932-5515 (catalog available). They're quite reasonably priced; most are under $20. It's nice to know that after you've had enough of your Osborne's great business and professional applications, you can now enjoy some fun and games, too.

Jonathan Plutchok

Space Raiders

Space Raiders is the newest offering from the Portable Software people, who have written a number of other amusing games for the Osborne. The Osborne's graphics are used to provide a viewscreen into space from your seat at the controls of the space ship Defiant. As you turn to lock your crosshairs onto a Klingon fighter (which appears as a bright rectangle), you see the stars panning across the screen. Engage your warp drives, and the stars begin rushing past your sights. The screen also displays your position and heading, the convoy's position, and your fuel and shield energy levels at all times. Press a key, and your viewscreen is replaced by a damage report on all your major systems. (One tiny question: Why did this game's designers choose to portray stars as large ovals? Asterisks would have looked nicer.)

Space Raiders requires you to navigate through three-dimensional space. To get where you want to go, your onboard computer can give you theta and phi (up-and-down and right-and-left) headings to follow. Your XYZ coordinates are constantly displayed. So are the enemy convoy's; but since it is in motion, its coordinates and your theta and phi headings are constantly changing. Even if you use a hyperspace transfer to flash you to the convoy's sector of the galaxy, you must still navigate to find and battle the Klingon fighters.

The result is that navigation with Space Raiders is very difficult. This is not just a star wars shoot-'em-up; Space Raiders challenges you intellectually. It takes a lot of quick brainwork to find your way around deep space. I have played Star Raiders on the Atari 800 computer. That game, which is similar to Space Raiders, offers you a galactic map which plots you and your enemy's locations. You can hyperwarp from one grid sector to another with ease. You can't do that in Space Raiders.

Space Raiders offers thrills to which Osborne users may be unaccustomed. It's exciting and stimulating. I have found, however, that its intellectual challenges some-

times get in the way of its enjoyment. I am sure that with practice, I will eventually progress beyond the "novice" level! But it can be frustrating to watch my starship spin aimlessly through space, taking direct Klingon hits until it is destroyed, while I try to figure out how to turn and fire at my attackers.

I heartily recommend Space Raiders to all Osborne users who have tired of WordStar, SuperCalc, dBase II, etc.—especially the more mathematically-oriented among you. The Portable Software company (216 Penn Avenue, Oxford, PA 19363 (215) 932-5515) is to be commended for bringing action and adventure to the business-minded Osborne computer. Price: $29.95.

Jonathan Plutchok

Jonathan Plutchok (Forest Hills, New York) is an attorney, editor of several financial planning newsletters, and free-lance writer. He loves video games and his Osborne.

Money Maestro

A local financial institution advertises that they provide customers with a personal banker for a minimum deposit of $2,500; *Money Maestro* (MM to friends) serves as my personal banker—at about a tenth of that cost.

MM is a *very* user friendly personal (or small business) finance package developed by InnoSys Inc. and licensed as approved OCC software. Happily, one need know little about either finance or computers to utilize the program. Detailed, occasionally witty prompts and explanations (formatted to the O-1's 52 column screen) appear whenever "?" is entered. A tutorial walks the new user through various options and leaves him/her ready to customize the package to personal needs.

MM has many features but the three most useful are a) check book balancing; b) budgeting help; and c) end-of-the-year tax report. A few minutes at the end of each month with MM leaves one with a clear (if often somber) picture of personal finances. The user can thus profit from past mistakes (what categories of expenses show excessive deficits over budgeted figures?) and correct those excesses, willpower permitting.

The price for MM's friendliness is speed. It takes a full minute after booting the program before the main menu of 18 options appears (see menu listing below). However, abbreviated and multiple commands permit the advanced user to prod MM into faster action. Remembering the hours (days) spent running down information for tax returns, I consider MM a whiz for speed by comparison. If you're neither a financial nor programming genius, you'll also appreciate MM's patient, sometimes whimsical help in organizing your personal finances. After all, how many bankers have you met with a sense of humor? PS: Don't forget to deduct MM's cost from your taxes.

Money Maestro Main Menu
What do you want to do today:

1 to pay bills or make deposits
2 to list your check register
3 to list your categories
4 to list your payees
5 to reconcile your checkbook
6 to give you detail for a given category
7 to change your budget
8 to reset everything to start a new year
9 to give you payments to a particular payee
10 to add new payees
11 to add new category numbers
12 to create or modify a stockpile of bills
13 to pay bills from a stockpile file
14 to organize a stockpile of bills for payment
15 for a tax report
16 to list your budget status
17 to set your screen size
18 to change today's date from mm/dd/yy

Now enter a number, "?", or "END" followed by RETURN.

Richard W. Slatta

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New Products

Saving space

A clear plexiglass **desktop computer** stand has recently been released by SGW Enterprises. Retailing at $34.95, the stand is designed for use with detached keyboard computers like the Osborne 1. It lifts the computer body to a better viewing position, and allows both keyboard positioning and storage after use.

SGW also offers plexiglass desktop printer stands which fit popular models. Contact the company for a free catalog of products selected for owners of small computers.

SGW Enterprises
722-J Genevieve Street
Solana Beach, CA 92075

Rolling in dough

The high-rolling commodity market provides a playing field for the hopeful **Tycoon,** via a new recreational/educational program of the same name recently released by Blue Chip Software.

Tycoon, designed for the same people who use Blue Chip's stock market simulation "Millionaire," is said to provide an entertaining and realistic simulation of the commodities market, as well as a risk-free learning experience. It also includes a built-in program generator which allows users to create new scenarios of the simulation at any time.

Versions on CP/M will be available as soon as demand warrants. Those interested should contact either their dealer or Blue Chip Software. Cost is $99.95

Blue Chip Software
19824 Ventura Blvd., Suite 125
Woodland Hills, CA 91364

Menu-driven regression

A conversational, menu-driven regression program for the analysis of economic data, the **Econometric Analysis Program,** has been released by the Cornell Consulting Group. Written in MBASIC for use on the Osborne 1, the program displays (and optionally prints) regression coefficients, an ANOVA table, correlation and variance co-variance matrices, residuals plot, and a comprehensive array of regression statistics including Durbin-Watson, Durbin H, Chow F (stability) and Goldfield-Quandt F (heteroscedasticity).

The program uses double precision format and is supplied on a 5¼-inch diskette. The diskette also contains a second regression program which fits five different functional forms to observations of two variables.

The diskette with manual is priced at $175. The manual is available separately for $7.50 which is credited toward purchase of the diskette. Write for information:

Cornell Consulting Group, Inc.
7635 Trail Run Road
Falls Church, VA 22042

Superfile system 3

The manufacturers of Superfile have added **Superfile System 3** to their line of text management software. FYI, Inc., says the new product offers easy updating and automatic re-indexing of up to 65,000 records per data base. Each free format, variable length record can have up to 500 of the

user's own key words as descriptors, with a maximum of 32,000 key words per data base.

Superfile System 3 includes another program **Post Haste,** which works in conjunction with either Superfile System 3 or Micropro's MailMerge to allow formatting and printing of mailing labels, envelopes, membership lists and other information retrieved from system searches. It sorts alphabetically or by zip code. The package comes with a 30-day money-back guarantee. Hardware recruitments are Z-80 CPU with CP/M 2.x, 2 disk drives or hard disk. It is available in most formats. Price is $295.

FYI, Incorporated
P.O. Box 26481
Austin, TX 78755

Sugar, sugar

A circuits analysis program for electrical engineers called **Sugar I** is now available from CGS, Inc. Written for the Osborne 1 and adaptable to any CP/M operating system, it utilizes flow graph theory to realize poles and zeros of a transfer function that are determined from the circuit topological description. This function is utilized to determine frequency response, impulse response, step response and component sensitivity.

Sugar II, a DC oriented circuit analysis program, will be introduced during the fourth quarter of 1983. **Sugar III** a multivalued logic simulation program, will be introduced during the first quarter of 1984.

CGS, Inc.
Systems Design Division
5550 Rowland Road
Minnetonka, MN 55343

Hyper typing

A new software package from Digital Marketing may help those two-fingered typists who find their computer literacy hindered. **HyperTyper** by Summit Software, retailing for $49.95, is said to be perfect for "introductory computer courses" since it runs on Osborne 1, IBM's PC and Apple II, and can be used in the office for typing tests and/or practice drills.

Children can also use HyperTyper as a game, say company spokesmen, while learning typing proficiency. Information can be obtained from local computer dealers or by calling Digital Marketing's toll free number: (800) 826-2222.

Digital Marketing
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Endorsed adventuring

The first **Adventure** game created by Will Crowther and Don Woods, has been recreated into the Osborne 1 format by the Software Toolworks and endorsed by the authors.

Invented in 1975, the game is modeled after a Kentucky cavern named Colossal Cave which Crowther explored as an amateur spelunker. Woods expanded it to its now well-known form, and the Toolworks version contains additional rooms and treasures as well as an expanded end game. Players achieving the maximum score may send for a free Certificate of Wizardness bearing Crowther's and Wood's signatures.

The Toolworks version is available through retailers or from the company for $19.95 plus $2 shipping on 8-inch CP/M disk as well as 5-inch Osborne 1 format.

The Software Toolworks
15233 Ventura Boulevard,
Suite 1118
Sherman Oaks, CA 91403

APPROVED BY OCC, FROM INFOCOM INC:

Zorkers under the rug

Putting one's nose to the tunnel and getting down—as in underground—is the beginning of adventure in the Interlogic "prose adventure" by Infocom called **Zork I.**

The Great Underground Empire is populated with lots of desirable gold and undesirable creatures who want it, including such characters as the Wizard of Frooozz and a thief. A host of objects, twists, and turns within the labyrinth and vehicles that transport players to "mysterious regions inaccessible by foot" keep the quest for riches an intriguing one.

Zork I and its companions **Zork II and III** communicate in complete sentences rather than two-word commands, and they are said to have the "largest vocabulary and widest range of command options in the genre." It is available from Osborne dealers. Suggested retail price is $49.95 for each Zork game.

Not so elementary, watson

You have only 12 hours to decide who killed Marshall Ropner. That's some **Deadline** for all you would-be Sherlock Holmeses, and another challenge game from Infocom. The package is full of clues, including samples of the death drug, Ebullion, lab reports and interviews with suspects.

The two-disk game takes specific commands such as "analyze," "follow," "examine," and can help you talk to suspects in sentences like, "Jim, who is the butler?" Our resident *Portable Companion* detective buff hasn't solved the murder yet. Deadline is available from Osborne dealers, and suggested retail is $59.95.

New Product information is derived from press releases sent to The Portable Companion by the producing companies. Statements of fact or opinion expressed in the New Product announcements that appear in this magazine are those of the producing company and have not been checked for accuracy by Osborne Computer Corporation. Before purchasing any of the products listed in this section, you are advised to check the validity of all claims made for the product.

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Puzzler

How nimble are you?

This month's *Puzzler* offers a challenge—a challenge for you to decipher the mathematical logic and strategy of a game 5000 years old, and then program it into a computerized version complete with graphics.

The non-computer game setup consists of placing 4 rows of match sticks in groups of 7, 5, 3, and 1. Two combatants take turns picking any number of sticks from a single row. An entire row can be picked; the player picking the last stick loses. The drawings illustrate an example game.

With origins in China, this game is considered the most ancient of all two player tests of logic.

It's known by several names, but NIM (short for NIMble?) is the designated title bestowed upon it by Harvard mathematician Charles Leonard Bouton back in 1901. However, it wasn't until 1962 that NIM reached national prominence when the movie "Last Year at Marienbad" was released and a scene featuring NIM was shown; NIM became an instant hit on the cocktail circuit.

Little was known then and now about Bouton's winning strategy using move combinations based on binary logic. That is where you come in.

Your mission, should you decide to accept it, is to unlock the winning algorithm and incorporate it into a NIM computer game using the program language of your choice. Of course, Bouton performed his research without computers but we need not be so neanderthal (said with nose in air).

Design the game to be played against the computer with alternating first moves. As Bouton discovered, the player going first has an advantage, or disadvantage (I'm not telling which—it's part of your sleuthing to find out). Make your game appealing by adding screen graphics, optional (toggle on/off) printer subroutines, and humor.

In the next *Puzzler,* we'll reveal the winning combinations and concepts behind the moves. By that time, we hope you have devised a solution on your own. We want you to say, "After 5000 years, I figured out how to play NIM to WIN!"

Brad Baldwin

Example game between two
novice players

```
I I I I I I I       Initial board setup

  I I I I I

    I I I

      I


      I I I I       Player A takes 3 from
                    top row.
  I I I I I

    I I I

      I


      I I I I       Player B takes 4 from
                    second row.
          I

    I I I

      I


          I         Player A clears away
                    top row.
    I I I

      I


          I         Player B removes one.

      I I

      I


          I         Player A finally sees the
                    light.  This position is
        I           automatic victory.

      I


        I           Player B has no choice.

      I


      I             Player A removes one
                    stick leaving one for
                    Player B.  Player A wins,
                    but wonders how.  Both
                    players head for their
                    computers to ponder the
                    logic of this simple
                    game.
```

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Next Time

The September issue of the *Companion* will be filled with such technical diversity as:

- following stock investments with the Osborne
- a correspondence short-cut using MBASIC
- a screen dump for everything in video memory
- getting to know your CBASIC
- generating random numbers, for video games and other applications

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"I got my modem! Oh, God, I got my modem!"

My hands shook as I gently broke off eight plastic tabs and slowly inserted the OCC modem into Shiela, my OCC portable powerhouse.

"The world will be mine! The whole cockeyed world can be brought right into this room!"

I started choking down tiny chunks of the manual...

...Amcall, baud rate, parity. What?

Plug in the ribbon cable...where's the ribbon cable? Oh-oh. Modem's in upside down. Can't get the darned thing out. Nothing to hold on to. Fingernail clipper—not enough leverage. Screwdriver—too much leverage. Pair of table forks—almost perfect. Just tears the edges a little.

OK. Ready to play....

"Oh, be quiet. I'll come to bed when I finish reading this MB 87l/2cq{7HM9mPMXmB6m{7HM9mPe*^\Mdma7?DXRCmM´m{7JxmM9mPMHMXmJM{`>~2..."

"No, I didn't call the phone company and tell them I put in a modem. No, I don't think it's my fault. No, I can't call the phone company at 2:30 on a Saturday morning.

"No, I don't think six o'clock in the morning is too soon to start playing with Shiela; yes, the phone is working again, and yes, I'll come to breakfast as soon as it's on the table...

"No, I don't think six o'clock at night is too long to go without eating, and of course the eggs are cold.

"OK, OK. I'll stop reading the manuals. Oh-oh. It's gone crazy again. Look at that mess!

"No. I didn't do it. I know I didn't do it. But the line's dead, anyway.

"How the hell can I call them when the line's dead?"

NEXT MORNING

The telephone ringing pulled me out of bed by the ears.

"This is the telephone repairman."

"Thank God!"

"Where were you when I pounded on the door? Didn't you hear your dog barking?"

"No. Well. Uh. I must've been sleeping. I'm a writer. I work late. Uh. Well. Uh. Is it about the modem?"

"The what?"

"Never mind. I'll let you in. I won't try to hide anything. Just let me get dressed first."

Over a cup of coffee, I received absolution from my unearned guilt. It was a moisture-shorted line between the pole and the house. I also received a warning.

"You'll have to put a data line in eventually. A voice line just won't be able to accommodate you."

"Wow!" I said.

He shook his head and left. I ran for the phone.

"Hello, Sears Business Center?"

They were the reason I went Osborne in the first place. Figured I could trust Sears.

"You haven't the faintest idea? Bring the computer and printer both in?"

Forty miles and an hour later.

"Leave it?"

Another forty miles, another hour. The phone rang just as I opened the door.

"It's done already? All I have to do is unplug the modem before I use the printer? The computer doesn't know whether to send to the printer or the modem, so it does both? But on page 9 it says to leave it attached. Never mind."

Another forty miles, another hour and a half. Rush hour.

"No charge? Gee, that's super! Tell Osborne to get its stuff together? Gee."

Another forty miles, another forty minutes. Same rush hour traffic. Ahhh. Home again with Shiela. Better do the paper work. Modem serial number. Oh-oh. Have to take it out again. Hooray for forks.

Getting sleepy. Wonder where does it say how to hang up out of autodial? Oh, well.

"Yeah, yeah. I just pulled the plug. I'm coming, I'm coming."

Jack W. Dukes, Sr.

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VERSAINVENTORY™ is a complete inventory control system that gives you instant access to data on any item. VERSAINVENTORY™ keeps track of all information related to what items are in stock, out of stock, on backorder, etc., stores sales and pricing data, alerts you when an item falls below a preset reorder point, and allows you to enter and print invoices directly or to link with the VERSARECEIVABLES™ system. VERSAINVENTORY™ prints all needed inventory listings, reports of items below reorder point, inventory value reports, period and year-to-date sales reports, price lists, inventory checklists, etc.

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